

Australia (non-U.S. corporation)
Commonwealth Scientific and Industrial Research
Organisation, Australian Capital Territory, Australia
(non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6322827	B1	20011127
	WO 9903360		19990128
APPLICATION INFO.:	US 2000-462832		20000414 (9)
	WO 1998-AU563		19980716
			20000414 PCT 371 date
			20000414 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1997-7992	19970716
	AU 1997-7995	19970716
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Sayala, Chhaya D.	
LEGAL REPRESENTATIVE:	McDermott, Will & Emery	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 6 Drawing Page(s)	
LINE COUNT:	928	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a method of improving the growth rate and/or feed conversion efficiency of ruminant livestock during the starter/adaptation phase of feedlotting, wherein said method includes or consists of feeding to the ruminant livestock, protected carbohydrate such that 30-80% of said protected carbohydrate is capable of passing through the rumen undigested leaving 30-80% of said protected carbohydrate available for digestion post-ruminally.

L117 ANSWER 10 OF 11 USPATFULL on STN

ACCESSION NUMBER: 1998:147052 USPATFULL
TITLE: Antiparasitic compositions
INVENTOR(S): Hennessy, Desmond Ronald, North Epping, Australia
Ashes, John Richard, Wahroonga, Australia
Scott, Trevor William, Kellyville, Australia
Gulati, Suresh Kumar, Eastwood, Australia
Steel, John Winston, Castlecrag, Australia
PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Organisation,
Parkville, Australia (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5840324		19981124
	WO 9427598		19941208
APPLICATION INFO.:	US 1996-549755		19960313 (8)
	WO 1994-AU272		19940524
			19960313 PCT 371 date
			19960313 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1993-9030	19930526
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Mullis, Jeffrey C.	

LEGAL REPRESENTATIVE: Lowe Hauptman Gopstein Gilman & Berner
NUMBER OF CLAIMS: 24
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 599

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention concerns the delivery of anti-parasitic agents to ruminant animals. More particularly, the invention concerns delivery of such agents in a controlled manner to enable the agent to have maximum effect on the parasite for longer times than is possible with conventional formulations. The composition of the invention comprises a benzimidazole, macrocyclic lactone, organophosphate, salicylanilide/substituted phenol, tetramisole or pyrimidine anti-parasitic agent dispersed in a medium the solubility characteristics of which are such as to ensure that, following oral administration, controlled amounts of the anti-parasitic agent become available to the parasite, either directly or by absorption into the ruminant blood plasma, during passage of the composition through the rumen, the abomasum and the intestine.

L117 ANSWER 11 OF 11 USPATFULL on STN

ACCESSION NUMBER: 75:67431 USPATFULL
TITLE: Feed supplements for ruminants comprising lipid encapsulated with protein-aldehyde reaction product
INVENTOR(S): Scott, Trevor William, Kellyville, Australia
Hills, Geoffrey Dean Loftus, Beaumaris, Australia
PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Research Organization, Australia (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3925560		19751209
APPLICATION INFO.:	US 1973-359793		19730514 (5)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Yudkoff, Norman		
ASSISTANT EXAMINER:	Ribando, Curtis P.		
LEGAL REPRESENTATIVE:	Richards, Harris & Medlock		
NUMBER OF CLAIMS:	11		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	549		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for improving the utilization of lipid materials by ruminants comprising feeding ruminants an emulsion or emulsion product comprising homogeneous lipid bodies dispersed within a medium. The medium comprises the reaction product of a dietary protein and an aldehyde, said reaction product being substantially insoluble at a pH greater than about 5 and substantially soluble at a pH less than about 4. The lipid bodies disclosed are protected from degradation in the rumen but remain available for digestion in the abomasum or lower gut. Methods for preparing the emulsified product and ruminant milk and meat product produced with the aid of the emulsified products are also discussed herein.

substance identification.

L1 1 SEA FILE=REGISTRY ABB=ON FORMALDEHYDE/CN
L35 6615 SEA FILE=USPATFULL ABB=ON L1
L42 1617 SEA FILE=USPATFULL ABB=ON BUTTER/CT OR CHEESE#/CT OR CHOCOLATE
/CT OR DAIRY PRODUCTS/CT
L43 3332 SEA FILE=USPATFULL ABB=ON MILK/IT
L44 507 SEA FILE=USPATFULL ABB=ON (YOGHURT OR YOGURT OR FORMULA(L) INFAN
T)/IT
L45 172 SEA FILE=USPATFULL ABB=ON LACTATION/CT
L58 127923 SEA FILE=USPATFULL ABB=ON FEED#/IT, TI, AB, CLM
L60 3 SEA FILE=USPATFULL ABB=ON L35 AND L58 AND (L42 OR L43 OR L44
OR L45)

L1 1 SEA FILE=REGISTRY ABB=ON FORMALDEHYDE/CN
L9 11 SEA FILE=REGISTRY ABB=ON (60-33-3/BI OR 112-80-1/BI OR
121250-47-3/BI OR 2420-56-6/BI OR 2540-56-9/BI OR 32839-18-2/BI
OR 32839-30-8/BI OR 463-40-1/BI OR 50-00-0/BI OR 57-10-3/BI
OR 57-11-4/BI)
L10 10 SEA FILE=REGISTRY ABB=ON L9 NOT L1
L35 6615 SEA FILE=USPATFULL ABB=ON L1
L36 7805 SEA FILE=USPATFULL ABB=ON L10
L37 203 SEA FILE=USPATFULL ABB=ON FATTY ACIDS/CT(L) OMEGA/IT
L41 2659 SEA FILE=USPATFULL ABB=ON RUMINANT/CT OR CATTLE/CT OR GOAT/CT
OR SHEEP/CT OR LLAMA/CT
L46 206 SEA FILE=USPATFULL ABB=ON (RUMEN?(2A) (BYPASS? OR PROTECT?))
L47 37 SEA FILE=USPATFULL ABB=ON (RUMEN?(2A) (BYPASS? OR PROTECT?))/IT
L48 68 SEA FILE=USPATFULL ABB=ON (POSTRUMIN? OR POST RUMIN?) OR
(POSTRUMIN? OR POST RUMIN?)/IT
L57 34 SEA FILE=USPATFULL ABB=ON (POSTRUMEN? OR POST RUMEN?) OR
(POSTRUMEN? OR POST RUMEN?)/IT
L61 0 SEA FILE=USPATFULL ABB=ON L35 AND (L36 OR L37) AND (L41 OR
(L46 OR L47 OR L48) OR L57)

L1 1 SEA FILE=REGISTRY ABB=ON FORMALDEHYDE/CN
L35 6615 SEA FILE=USPATFULL ABB=ON L1
L58 127923 SEA FILE=USPATFULL ABB=ON FEED#/IT, TI, AB, CLM
L62 22 SEA FILE=USPATFULL ABB=ON L35(L) L58
L63 3 SEA FILE=USPATFULL ABB=ON SUPPLEMENT#/TI AND L62

=> s (l60 or l63) not l116

L119 3 (L60 OR L63) NOT L116

*previously
printed w/ inventor search*

=> fil capl; d que 125; d que 153; d que 130

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FILE COVERS 1907 - 27 Sep 2004 VOL 141 ISS 14
FILE LAST UPDATED: 26 Sep 2004 (20040926/ED)

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'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L1 1 SEA FILE=REGISTRY ABB=ON FORMALDEHYDE/CN
L6 65508 SEA FILE=CAPLUS ABB=ON L1
L9 11 SEA FILE=REGISTRY ABB=ON (60-33-3/BI OR 112-80-1/BI OR
121250-47-3/BI OR 2420-56-6/BI OR 2540-56-9/BI OR 32839-18-2/BI
OR 32839-30-8/BI OR 463-40-1/BI OR 50-00-0/BI OR 57-10-3/BI
OR 57-11-4/BI)
L10 10 SEA FILE=REGISTRY ABB=ON L9 NOT L1
L11 92096 SEA FILE=CAPLUS ABB=ON L10
L12 2546 SEA FILE=CAPLUS ABB=ON FATTY ACIDS/CT(L) OMEGA/OBI
L13 144 SEA FILE=CAPLUS ABB=ON L6(L) AGR/RL
L14 95 SEA FILE=CAPLUS ABB=ON L6(L) FFD/RL
L15 3265 SEA FILE=CAPLUS ABB=ON RUMINANT/CT
L16 42468 SEA FILE=CAPLUS ABB=ON CATTLE/CT
L17 4857 SEA FILE=CAPLUS ABB=ON GOAT/CT
L18 22143 SEA FILE=CAPLUS ABB=ON SHEEP/CT
L19 23 SEA FILE=CAPLUS ABB=ON LLAMA/CT
L20 28543 SEA FILE=CAPLUS ABB=ON BUTTER/CT OR CHEESE#/CT OR CHOCOLATE/CT
OR DAIRY PRODUCTS/CT
L21 78152 SEA FILE=CAPLUS ABB=ON MILK/CW
L22 3486 SEA FILE=CAPLUS ABB=ON YOGHURT/OBI OR YOGURT/OBI
L23 1374 SEA FILE=CAPLUS ABB=ON FORMULA/OBI(L) INFANT/OBI
L24 15221 SEA FILE=CAPLUS ABB=ON LACTATION/CT
L25 4 SEA FILE=CAPLUS ABB=ON (L11 OR L12) AND (L13 OR L14) AND (L15
OR L16 OR L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR
L24)

L1 1 SEA FILE=REGISTRY ABB=ON FORMALDEHYDE/CN
L6 65508 SEA FILE=CAPLUS ABB=ON L1
L13 144 SEA FILE=CAPLUS ABB=ON L6(L) AGR/RL
L14 95 SEA FILE=CAPLUS ABB=ON L6(L) FFD/RL
L27 537 SEA FILE=CAPLUS ABB=ON (RUMEN?(2A) (BYPASS? OR PROTECT?))/BI
L28 338 SEA FILE=CAPLUS ABB=ON (POSTRUMIN? OR POST RUMIN?)/BI
L52 33 SEA FILE=CAPLUS ABB=ON (POSTRUMEN? OR POST RUMEN?)/BI
L53 4 SEA FILE=CAPLUS ABB=ON (L13 OR L14) AND (L27 OR L28 OR L52)

L1 1 SEA FILE=REGISTRY ABB=ON FORMALDEHYDE/CN
L6 65508 SEA FILE=CAPLUS ABB=ON L1
L9 11 SEA FILE=REGISTRY ABB=ON (60-33-3/BI OR 112-80-1/BI OR
121250-47-3/BI OR 2420-56-6/BI OR 2540-56-9/BI OR 32839-18-2/BI
OR 32839-30-8/BI OR 463-40-1/BI OR 50-00-0/BI OR 57-10-3/BI

*> Role AGR = agricultural use
FFD = food or feed use*

OR 57-11-4/BI)

L10 10 SEA FILE=REGISTRY ABB=ON L9 NOT L1
 L11 92096 SEA FILE=CAPLUS ABB=ON L10
 L12 2546 SEA FILE=CAPLUS ABB=ON FATTY ACIDS/CT (L) OMEGA/OBI
 L15 3265 SEA FILE=CAPLUS ABB=ON RUMINANT/CT
 L16 42468 SEA FILE=CAPLUS ABB=ON CATTLE/CT
 L17 4857 SEA FILE=CAPLUS ABB=ON GOAT/CT
 L18 22143 SEA FILE=CAPLUS ABB=ON SHEEP/CT
 L19 23 SEA FILE=CAPLUS ABB=ON LLAMA/CT
 L20 28543 SEA FILE=CAPLUS ABB=ON BUTTER/CT OR CHEESE#/CT OR CHOCOLATE/CT
 OR DAIRY PRODUCTS/CT
 L21 78152 SEA FILE=CAPLUS ABB=ON MILK/CW
 L22 3486 SEA FILE=CAPLUS ABB=ON YOGHURT/OBI OR YOGURT/OBI
 L23 1374 SEA FILE=CAPLUS ABB=ON FORMULA/OBI (L) INFANT/OBI
 L24 15221 SEA FILE=CAPLUS ABB=ON LACTATION/CT
 L30 2 SEA FILE=CAPLUS ABB=ON L6 AND (L11 OR L12) AND (L15 OR L16 OR
 L17 OR L18 OR L19) AND (L20 OR L21 OR L22 OR L23 OR L24)

=> s (l25 or l53 or l30) not l7

L120 7 (L25 OR L53 OR L30) NOT *(L7) previously printed*

=>

=> dup rem l120,l118,l113,l115,l119

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 PROCESSING COMPLETED FOR L120
 PROCESSING COMPLETED FOR L118
 PROCESSING COMPLETED FOR L113
 PROCESSING COMPLETED FOR L115
 PROCESSING COMPLETED FOR L119

L121 35 DUP REM L120 L118 L113 L115 L119 (11 DUPLICATES REMOVED)

ANSWERS '1-7' FROM FILE CAPLUS

ANSWERS '8-10' FROM FILE AGRICOLA

ANSWERS '11-23' FROM FILE CABA
 ANSWERS '24-29' FROM FILE BIOSIS
 ANSWER '30' FROM FILE PASCAL
 ANSWER '31' FROM FILE FSTA
 ANSWER '32' FROM FILE WPIDS
 ANSWERS '33-35' FROM FILE USPATFULL

=> d ibib ed ab hitrn 1-7; d iall 8-32; d ibib ab hitrn 33-35; fil hom

L121 ANSWER 1 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
 ACCESSION NUMBER: 2003:620819 CAPLUS
 DOCUMENT NUMBER: 139:337404
 TITLE: Digestion, milk production, milk composition, and
 blood composition of dairy cows fed formaldehyde
 treated flaxseed or sunflower seed
 AUTHOR(S): Petit, H. V.
 CORPORATE SOURCE: Dairy and Swine Research and Development Centre,
 Agriculture and Agri-Food Canada, Lennoxville, QC, J1M
 1Z3, Can.
 SOURCE: Journal of Dairy Science (2003), 86(8), 2637-2646
 CODEN: JDSCAE; ISSN: 0022-0302
 PUBLISHER: American Dairy Science Association
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 13 Aug 2003

AB Mid-lactation Holstein dairy cows (n=40; 635.+-.8 kg) were allotted at wk 25 of lactation to 10 groups with similar calving dates to det. the effects of formaldehyde treatment of flaxseed and sunflower seed on fatty acid compn. of blood and milk, milk yield, feed intake, and apparent nutrient digestibility. Cows were fed total mixed diet based on grass silage and supplements for ad libitum intake over 10-wk period. Four isonitrogenous supplements based on untreated whole flaxseed, formaldehyde-treated whole flaxseed, untreated whole sunflower seed, or formaldehyde-treated whole sunflower seed were fed. Cows fed whole flaxseed vs. sunflower seed maintained greater dry matter (DM) intakes (20.3 vs. 18.9 kg/day). Intake of DM as % of body wt. was increased by adding formaldehyde to the oilseeds (3.24 vs. 2.98%). Milk prodn. was similar in cows fed flaxseed and sunflower seed. Formaldehyde treatment of flaxseed and sunflower seed increased milk prodn. on av. by 2.65 kg/day. Efficiency of fat-cor. milk yield kg/kg DM intake was increased by formaldehyde treatment (1.31 vs. 1.21), and it was greater with sunflower seed than with flaxseed (1.33 vs. 1.21). Protein concn. in milk was greater in cows fed flaxseed (3.38%) vs. sunflower seed (3.21%); formaldehyde had no effect. The apparent digestibility of DM was not affected by the type of seed, but it was greater in cows fed formaldehyde-treated seeds. Cows fed the formaldehyde-treated flaxseed had the greatest apparent digestibilities of acid detergent and neutral detergent fiber vs. the other diets. Apparent digestibilities of fatty acids were greater with sunflower seed vs. flaxseed-based diets. Thus, formaldehyde treatment had limited effects on milk fatty acid compn., suggesting that formaldehyde was not very effective in protecting polyunsatd. fatty acids against ruminal biohydrogenation. Feeding flaxseed resulted in the lowest n-6/n-3 fatty acid ratio. Both flaxseed and sunflower seed may be acceptable fat sources for mid-lactation dairy cows, with flaxseed increasing the milk protein % compared to sunflower seed.

IT 57-10-3, Hexadecanoic acid, biological studies 57-11-4,
 Octadecanoic acid, biological studies 60-33-3,
 9,12-Octadecadienoic acid (9Z,12Z)-, biological studies 112-80-1
 , 9-Octadecenoic acid (9Z)-, biological studies 463-40-1
 RL: BSU (Biological study, unclassified); BIOL (Biological study)

(dietary formaldehyde-treated flaxseed or sunflower seed effects on nutrient digestibility, milk prodn., milk compn. and blood compn. in Holstein dairy cows)

IT 50-00-0, Formaldehyde, biological studies

RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)

(dietary formaldehyde-treated flaxseed or sunflower seed effects on nutrient digestibility, milk prodn., milk compn. and blood compn. in Holstein dairy cows)

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L121 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 1999:134264 CAPLUS

DOCUMENT NUMBER: 130:351599

TITLE: Effect of feeding formaldehyde- and heat-treated oil seed on milk yield and milk composition

AUTHOR(S): Tymchuk, S. M.; Khorasani, G. R.; Kennelly, J. J.

CORPORATE SOURCE: Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Can.

SOURCE: Canadian Journal of Animal Science (1998), 78(4), 693-700

CODEN: CNJNAT; ISSN: 0008-3984

PUBLISHER: Agricultural Institute of Canada

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 02 Mar 1999

AB The primary objective of this study was to det. the effect of formaldehyde-treated oil seed on milk compn., with particular emphasis on the fatty acid and protein compn. of milk. Ground and heat-treated canola seed treatments were included for comparison purposes. Four early-lactation Holstein cows were assigned to four treatments in a 4 .times. 4 Latin square design. Cows were fed a control diet contg. 60% conc., 20% alfalfa silage and 20% barley silage (DM basis). The conc. portion was based on rolled barley, canola meal, and ground corn. Canola seed replaced barley and canola meal in the control diet at 5% on a DM basis. Dry matter intake (21.0 +/- 0.1 kg/d), milk yield (33.3 +/- 1.57 kg/d), milk component yield and milk protein and lactose percentages were not affected ($P > 0.05$) by dietary treatment. Cows fed untreated ground canola seed had lower ($P < 0.05$) milk fat percentage than cows fed the other treatments. The addn. of untreated and heat-treated canola seed reduced palmitic acid (15%) and increased oleic acid (14%), but had no effect on linoleic and linolenic acid concns. Formaldehyde treatment resulted in a 76 and 123% increase in C18:2 and C18:3, resp. over the control diet, whereas untreated and heat-treated canola seed did not influence the concn. of these fatty acids. Effects of treatments on milk protein and non-protein nitrogen components were minor or nonexistent. Transfer efficiencies calcd. for linoleic and linolenic acid indicated that formaldehyde treatment was efficacious in significantly reducing the extent of biohydrogenation of fatty acids in the rumen.

IT 50-00-0, Formaldehyde, biological studies

RL: AGR (Agricultural use); FFD (Food or feed use);

BIOL (Biological study); USES (Uses)

(effect of feeding formaldehyde- and heat-treated oil seed on milk yield and milk compn.)

IT 57-10-3, Palmitic acid, biological studies 112-80-1, Oleic acid, biological studies

RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)

(effect of feeding formaldehyde- and heat-treated oil seed on milk yield and milk compn.)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L121 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
ACCESSION NUMBER: 1976:149712 CAPLUS
DOCUMENT NUMBER: 84:149712
TITLE: Increasing polyunsaturation of milk fats by feeding formaldehyde protected sunflower-soybean supplement
AUTHOR(S): Wrenn, T. R.; Weyant, J. R.; Wood, D. L.; Bitman, J.; Rawlings, R. M.; Lyon, K. E.
CORPORATE SOURCE: Anim. Physiol. Genet. Inst., ARS, Beltsville, MD, USA
SOURCE: Journal of Dairy Science (1976), 59(4), 627-35
CODEN: JDSCAE; ISSN: 0022-0302
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB A practical means of protecting fats of a feed conc. cong. high polyunsatd. fatty acids is described. A ground mixt. of 30% soybeans and 70% sunflower seeds was treated with 1% formaldehyde to protect the unsatd. lipids from microbial hydrogenation in the rumen. This was fed as a supplement to two Holstein cows in amts. that were doubled weekly. These ranged from 524 to 8384 g/day and provided successively increasing intakes of 100, 200, 400, 800, and 1600 g of linoleic acid [60-33-3] daily. Milk fat increased by >1% (.apprx.2-fold increase), and linoleic acid (C18:2) of milk fat increased from 2.5 to 20% with compensatory declines in myristic (C14:0) and palmitic (C16:0) acids. Cholesterol and vitamin E of plasma both doubled at the highest supplementation. Milk yield, solids-not-fat, protein, and milk cholesterol were unaltered. Fat in feces doubled from about 3 to 6%. Daily linoleic acid content of feces increased from 25 g to 120 g, indicating a dietary loss of 7-10% of this polyunsatd. acid. These cheaper feed ingredients elevated the polyunsatd. fats in milk as effectively as purified casein and safflower oil supplements.
IT 50-00-0, biological studies
RL: BIOL (Biological study)
(feed treated with, milk fat compn. in response to)
IT 60-33-3, biological studies
RL: BIOL (Biological study)
(of milk fat, formaldehyde-treated feed effect on)

L121 ANSWER 4 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:539463 CAPLUS
DOCUMENT NUMBER: 137:78345
TITLE: Nutritional composition containing fatty acids for increasing milk production and milk protein in mammals
INVENTOR(S): Ianna, Dante Pazzanese Duarte; McGuire, Mark A.; Medeiros, Sergio Raposo; Estrasulas De Oliveira, Dimas; Aroeira, Luis Januario M.
PATENT ASSIGNEE(S): Fundacao De Amparo A Pesquisa Do Estado De Sao Paulo - FAPESP, Brazil
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002054886	A1	20020718	WO 2002-BR3	20020109
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

disappearance of N from dacron bags suspended in the rumen was reduced by either treatment. Factors were lupine treatment (untreated, heat- and formaldehyde-treated) and supplementation of **rumen protected** methionine (3 g methionine/day). The diet contained (/kg) 620 g chaffed oaten hay, 350 g broken lupines and 30 g mineral premix and was supplied once daily to sheep at a level of 900 g per day air dry or approx. 8 MJ per day ME. Comparative clean wool growth rate was detd. on mid-side patches of approx. 100 cm² shorn in 4 wk-intervals. Feces and urine were collected for 7 days at the end of the expt. with six sheep per treatment. Both body wt. gain and clean wool growth were not significantly effected by either treatment of lupines. Supplementation of **rumen protected** methionine significantly increased both body wt. gain (by 27%) and clean wool growth. The effect of supplementary **rumen protected** methionine on clean wool growth was twice as high in sheep fed either heat- or formaldehyde-treated lupines (37 and 36%, resp.) as compared to sheep fed untreated lupines (19%). Sulfur, but not nitrogen concn. in clean wool was significantly increased by supplementation of **rumen protected** methionine. The efficiency of utilization of metabolizable protein for N retention was improved by 13, 22 and 27% for diets contg. untreated, heat- and formaldehyde-treated lupines due to protected methionine supplementation. Org. matter digestibility and daily fecal N excretion were unaffected by lupine treatment and by supplementation of **rumen protected** methionine, indicating an equal ME supply to all sheep. Thus, treating lupines with formaldehyde or heat cannot be recommended as a means to improve the lupine protein quality for wool prodn. unless extra **rumen protected** methionine is supplemented.

IT 50-00-0, Formaldehyde, biological studies

RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses).

(wool growth in Merino wethers fed lupines untreated or treated with heat or formaldehyde, with and without supplemented **rumen-protected** methionine)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L121 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:513260 CAPLUS

DOCUMENT NUMBER: 125:220421

TITLE: Digestibility of rumen-undegraded crude protein of treated protein feeds in **postruminal** part of digestive tract of ruminants

AUTHOR(S): Sommer, A.; Ceresnakova, Z.; Szakacs, J.; Chrenkova, M.

CORPORATE SOURCE: Research Institute Animal Production, Nitra, 94992, Slovakia

SOURCE: Archives of Animal Nutrition (1995), 48(1-2), 173-181
CODEN: AANUET

PUBLISHER: Harwood

DOCUMENT TYPE: Journal

LANGUAGE: German

ED Entered STN: 27 Aug 1996

AB The effective degradability and intestinal digestibility of crude protein (CP) of untreated and formaldehyde (F) treated sunflower press-cakes (SF), lucerne meal (LM), and field beans (FB) were measured on polycannulated bulls by in sacco and mobile bag methods. The feeds were treated with F soln. in doses of 0.2-2.0 g F/100 g CP. The effective CP degradability after treatment was decreased for SF from 78 to 33, LM from 73 to 62, and FB from 70 to 47% with max. dose of F. The intestinal digestibility of FB treated with maximal dose of F was 20% lower in the duodenum content than in abomasum content. The digestibility in the cecum content for all tested feeds decreased with doses of F, similar as in the rumen. The

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG,
 US, UZ, VN, YU, ZA, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 BR 2001000421 A 20020910 BR 2001-421 20010112
 EP 1357805 A1 20031105 EP 2002-715323 20020109
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 PRIORITY APPLN. INFO.: BR 2001-421 A 20010112
 WO 2002-BR3 W 20020109
 ED Entered STN: 19 Jul 2002
 AB A process to obtain increased milk prodn. and/or greater milk protein
 concn. is described using fatty acid supplements or through prodn. of
 specific fatty acids within the animal. The process or the
 supplementation of the product described in this invention (supplements
 formulated with fatty acid mixts. and with adequate levels of
 metabolizable protein) allows greater efficiency and/or better quality
 and/or a healthier mammal with improved productivity. The process
 includes supplementation of specific types of fatty acids with or without
 ruminal protection to ruminants and, generally, a diet with metabolizable
 protein energy ratio greater than that suggested by the state of the art.
 The process may include prodn. of the said compds. (conjugated fatty
 acids) in the animal itself from fat, certain compds. and added
 microorganisms capable of modifying the environment of the gut. The
 supplementation includes offering fatty acids capable of altering animal
 metab., as well as offering normal fatty acids which do not change metab.
 which, given some conditions in the rumen environment, can change their
 mol. structure and transform themselves into fatty acids capable of
 affecting tissue metab. (including increasing protein content and yield).
 IT 50-00-0, Formaldehyde, biological studies 60-33-3D,
 Linoleic acid, conjugated derivs. 2420-56-6 2540-56-9,
 Rumenic acid
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (fatty acid compn. for increasing milk prodn. and milk protein in
 mammals)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L121 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:760447 CAPLUS
 DOCUMENT NUMBER: 132:347074
 TITLE: Wool growth in Merino wethers fed lupins untreated or
 treated with heat or formaldehyde, with and without a
 supplementation of **rumen protected**
 methionine
 AUTHOR(S): Rodehutsord, M.; Young, P.; Phillips, N.; White, C.
 L.
 CORPORATE SOURCE: CSIRO Division of Animal Production, Australia
 SOURCE: Animal Feed Science and Technology (1999), 82(3-4),
 213-226
 CODEN: AFSTDH; ISSN: 0377-8401
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 02 Dec 1999
 AB Lupines were treated by either heat (115.degree.C for 1 h) or by
 formaldehyde (0.4 g/100 g crude protein). The fractional rate of

intestinal digestibility of undegraded CD residues of SF in the rumen increased from 43 to 82% as a result of the treatment. The effect of F on LM was very low, and the digestibility changed from 75 to 80%.

IT 50-00-0, Formaldehyde, biological studies

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)

(digestibility of in rumen-undegraded crude protein of treated protein feeds in **postruminal** part of digestive tract of ruminants)

L121 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1985:219924 CAPLUS

DOCUMENT NUMBER: 102:219924

TITLE: Nitrogen utilization and ruminal fermentation in steers fed soybean meal treated with formaldehyde

AUTHOR(S): Spears, J. W.; Clark, J. H.; Hatfield, E. E.

CORPORATE SOURCE: Univ. Illinois, Urbana, IL, 61801, USA

SOURCE: Journal of Animal Science (Savoy, IL, United States) (1985), 60(4), 1072-80

CODEN: JANSAG; ISSN: 0021-8812

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 29 Jun 1985

AB Rumen-fistulated steers averaging 400 kg in body wt. were given exptl. diets contg. 42% corn silage, 48.5% cracked corn-mineral mixt., and 9.5% soybean meal (SBM) treated with 0, 0.3, 0.6, or 0.9% formaldehyde [50-00-0] by wt. Dry matter and org. matter digestibilities were not affected by treatment. Formaldehyde treatment of SBM resulted in a linear decrease in N digestibility and urinary N excretion and a quadratic increase in N retention. The depression in apparent N digestibility was small when SBM was treated with 0.3% formaldehyde. This level of formaldehyde treatment also had little effect on in vitro enzymic hydrolysis of SBM. Ruminal ammonia-N concns. were lower in steers fed formaldehyde-treated SBM. Ruminal pH was lower at 6 and 8 h postfeeding while volatile fatty acid concns. were higher at 8 and 12 h postfeeding for steers fed untreated SBM. Rumen propionic acid decreased linearly with increasing level of formaldehyde treatment. Urea-N concns. in plasma were decreased and plasma-free essential amino acid concns. were increased by formaldehyde treatment. Ruminal disappearance of N from polyester bags contg. the SBM supplements was greatly reduced by formaldehyde treatment. Results suggest that treatment of SBM with 0.3% formaldehyde will reduce ruminal degrdn. while having little effect on **postruminal** protein digestibility, resulting in an increased N utilization.

IT 50-00-0, biological studies

RL: AGR (Agricultural use); FFD (Food or feed use);

BIOL (Biological study); USES (Uses)

(rumen fermn. and nitrogen utilization by steers response to soybean meal treated with)

L121 ANSWER 8 OF 35 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 2

ACCESSION NUMBER: 2002:57038 AGRICOLA

DOCUMENT NUMBER: IND23285942

TITLE: Milk production and composition, ovarian function, and prostaglandin secretion of dairy cows fed omega-3 fats.

AUTHOR(S): Petit, H.V.; Dewhurst, R.J.; Scollan, N.D.; Proulx, J.G.; Khalid, M.; Haresign, W.; Twagiramungu, H.; Mann, G.E.

AVAILABILITY: DNAL (44.8 J822)

SOURCE: Journal of dairy science, Apr 2002. Vol. 85, No. 4. p. 889-899

Publisher: Savoy, Ill. : American Dairy Science Association.

CODEN: JDSCAE; ISSN: 0022-0302

NOTE: Includes references

PUB. COUNTRY: Illinois; United States

DOCUMENT TYPE: Article

FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension

LANGUAGE: English

ABSTRACT:

Four multiparous Holstein **cows** were used in a 4 x 4 Latin square experiment to study the effects of fat sources rich in **omega-3** *****fatty*** acids** on **milk** production and composition, follicular development, and prostaglandin secretion. All **cows** were fed a total mixed diet containing 60% grass silage and 40% concentrate. The four treatments were concentrates based either on Megalac, **formaldehyde** **-treated** whole linseed, a mixture (50:50, oil basis) of fish oil and *****formaldehyde*** -treated** whole linseed, or no fat source in the concentrate but with 500 g per day of linseed oil being infused into the duodenum. Feed intakes and **milk** yield were similar among treatments. In general, the lowest digestibility was observed for the **formaldehyde** **-treated** whole linseed **treatment**. Feeding fish oil decreased **milk** fat and protein percentages. Alpha-linolenic acid increased from 1.0 to 13.9% of **milk** fatty acids with linseed oil infusion. This confirms the high potential to incorporate alpha-linolenic acid into **milk**, and suggests that the **formaldehyde** *****treatment***** had little effect to limit biohydrogenation in the rumen. Increasing the supply of alpha-linolenic acid to these **cows** did not result in an increase in the concentration of eicosapentaenoic acid in *****milk*****. Levels of 13,14-dihydro-15-keto-PGF(2alpha) in plasma were higher for **cows** receiving **formaldehyde-treated** linseed and fish oil. Increases in this metabolite in response to oxytocin challenge, tended to be lower for **cows** given linseed either as sole oil supplement in the diet or as a duodenal infusion of linseed oil. Follicle dynamics were similar among treatments. Larger corpora lutea (CL) were found with **cows** that received high levels of **omega-3** *****fatty*** acids** through the diet as **formaldehyde** *****treated***** linseed or as a mixture of **formaldehyde** *****treated***** linseed and fish oil, although CL were smaller when *****cows***** were infused with linseed oil into the duodenum. These results suggest that the improvement in gestation rate that was observed when feeding increased levels of alpha-linolenic acid in earlier work may partly result from lower levels of production of the dienoic prostaglandin PGF(2alpha).

CLASSIFICATION: L500 Animal Nutrition; L600 Animal Physiology and Biochemistry; L210 Animal Reproduction

CONTROLLED TERM (CABA): blood lipids; blood plasma; blood sugar; chemical composition; cholesterol; concentrates; corpus luteum; dairy **cows**; dietary fat; diets; duodenum; estrous cycle; fatty acids; feed intake; grass silage; high density lipoprotein; infusion; lactose; linseed; linseed oil; low density lipoprotein; **milk** fat percentage; **milk** fat yield; **milk** protein percentage; **milk** protein yield; **milk** yield; ovarian follicles; protected fat; synchronized females

SUPPLEMENTARY TERM: **formaldehyde-treated** linseed
CAS REGISTRY NO.: 50-56-6 (OXYTOCIN)
57-83-0 (LUTEUM)
57-88-5 (CHOLESTEROL)
463-40-1 (.ALPHA.-LINOLENIC ACID)
8001-26-1 (LINSEED OIL)
66455-18-3 (LIPIDS)
67254-79-9 (FATTY ACIDS)
136602-70-5 (MEGALAC)
50-00-0Q, 9002-81-7Q (FORMALDEHYDE)
63-42-3Q, 37383-89-4Q (LACTOSE)
10417-94-4Q, 25378-27-2Q, 32839-30-8Q
(EICOSAPENTAENOIC ACID)

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ACCESSION NUMBER: 2001:63733 AGRICOLA
DOCUMENT NUMBER: IND23222397
TITLE: **Milk** fatty acid composition and mammary
lipid metabolism in Holstein **cows** fed
protected or unprotected canola seeds.
AUTHOR(S): Delbecchi, L.; Ahnadi, C.E.; Kennelly, J.J.; Lacasse,
P.
AVAILABILITY: DNAL (44.8 J822)
SOURCE: Journal of dairy science, June 2001. Vol. 84, No. 6.
p. 1375-1381
Publisher: Savoy, Ill. : American Dairy Science
Association.
CODEN: JDSCAE; ISSN: 0022-0302
NOTE: Includes references
PUB. COUNTRY: Illinois; United States
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English
ABSTRACT:

Six midlactation Holstein **cows** were fed a total mixed ration
supplemented with either 4.8% canola meal, 3.3% unprotected canola seeds plus
1.5% canola meal, or 4.8% **formaldehyde-protected** canola
seeds, according to a double 3 x 3 Latin square design. Each period lasted 3
wk; experimental analyses were restricted to the last week of each period.
Mammary biopsies were taken the last day of each period for gene expression
measurements. **Milk** production and **milk** protein percentage
were reduced by canola seeds, whether protected or unprotected. Protected
canola seeds also decreased dry matter intake. Feeding canola seeds reduced the
content of C8 to C16 fatty acids in **milk** and increased the content of
oleic acid (C(18:1c9)). Unprotected canola seeds elevated the concentrations of
C(18:0). Protected canola seeds increased the C(18:2) and C(18:3) content, and
reduced the C(18:0)/C(18:1c9) ratio. Similar results were obtained for plasma
fatty acids, with some specific features, such as an increased C(16:0)/C(16:1)
ratio with protected canola seeds. Canola seeds had no significant effects on
insulin, triglycerides, or cholesterol present in serum, but increased the
concentration of nonesterified fatty acids; a greater increase was obtained
with protected canola seeds. Expression levels of acetyl-CoA carboxylase and
delta 9-stearoyl-CoA desaturase genes measured in the mammary gland did not
differ significantly between diets. Therefore, the reduced C(18:0)/C(18:1c9)
ratio observed in **milk** with protected canola seeds was not due to an
enhanced expression of the delta-9 desaturase in the mammary gland.

CLASSIFICATION: L500 Animal Nutrition; L600 Animal Physiology and

Biochemistry
CONTROLLED TERM (CABA): blood lipids; chemical composition; cholesterol; dairy
cows; fatty acids; feed intake; feed rations;
gene expression; insulin; lipid metabolism; mammary
glands; **milk fat**; **milk protein**
percentage; **milk yield**; oleic acid;
rapeseed; rapeseed oilmeal; triacylglycerols
CAS REGISTRY NO.: 57-88-5 (CHOLESTEROL)
9004-10-8 (INSULIN)
9014-34-0 (STEAROYL-COA DESATURASE)
9023-93-2 (ACETYL COA CARBOXYLASE)
64706-27-0 (TRIGLYCERIDES)
66455-18-3 (LIPIDS)
67254-79-9 (FATTY ACIDS)
67254-79-9 (NONESTERIFIED FATTY ACIDS)
91053-68-8 (MILK PROTEIN)
103843-28-3 (DESATURASE)
121957-95-7 (CANOLA MEAL)
50-00-0Q, 9002-81-7Q (FORMALDEHYDE)
112-80-1Q, 28325-80-6Q (OLEIC ACID)

L121 ANSWER 10 OF 35 AGRICOLA Compiled and distributed by the National
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ACCESSION NUMBER: 2002:39509 AGRICOLA
DOCUMENT NUMBER: IND23272886
TITLE: Transfer of omega-3 linolenic acid and linoleic acid
to **milk fat** from flaxseed or Linola
protected with formaldehyde.
AUTHOR(S): Goodridge, J.; Ingalls, J.R.; Crow, G.H.
AVAILABILITY: DNAL (41.8 C163)
SOURCE: Canadian journal of animal science, Dec 2001. Vol. 81,
No. 4. p. 525-532
Publisher: Ottawa : Agricultural Institute of Canada,
1957
CODEN: CNJNAT; ISSN: 0008-3984
NOTE: Includes references
PUB. COUNTRY: Canada; Ontario
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English
SUMMARY LANGUAGE: French

CLASSIFICATION: L500 Animal Nutrition; Q501 Food Composition, Dairy
Products
CONTROLLED TERM (CABA): **cattle feeding**; dairy **cows**; flax;
linoleic acid; linolenic acid; linum usitatissimum;
milk composition; **milk fat**;
milk yield
CAS REGISTRY NO.: 463-40-1 (LINOLENIC ACID)
50-00-0Q, 9002-81-7Q (FORMALDEHYDE)
60-33-3Q, 30175-49-6Q (LINOLEIC ACID)

L121 ANSWER 11 OF 35 CABA COPYRIGHT 2004 CABI on STN DUPLICATE 5
ACCESSION NUMBER: 77:23226 CABA
DOCUMENT NUMBER: 19770433725
TITLE: **Milk** and tissue lipid composition after
feeding **cows** protected polyunsaturated fat
for two years
AUTHOR: Wrenn, T. R.; Bitman, J.; Weyant, J. R.; Wood, D.

CORPORATE SOURCE: L.; Wiggers, K. D.; Edmondson, L. F.
Nutrient Utilization Lab., Anim. Physiol. & Genetics
Inst., USDA, Beltsville Agric. Res. Cent.,
Beltsville, Maryland 20705, USA.
SOURCE: Journal of Dairy Science, (1977) Vol. 60, No. 4, pp.
521-532. 49 ref.
ISSN: 0022-0302
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

ABSTRACT:

The long-term effects of feeding Holstein-Friesian **cows** plant lipids protected from microbial hydrogenation in the rumen were studied. Safflower oil-casein or safflower oil-casein **treated with formaldehyde** to impede microbial attack were fed to 2 groups of 3 **cows** as 10% of the concentrate ration for 2 **lactations**. Production of **milk** fat of **cows** fed the protected concentrate increased significantly. Linoleic acid of **milk** fat was twice normal, providing a polyunsaturated **milk**. Cholesterol of **milk** or meat did not increase even though cholesterol of blood plasma was higher in both groups fed safflower oil than in control **cows**. Cardiovascular systems showed no marked abnormalities and no differences that could be due to treatment. All *****cows***** maintained normal health and **milk** production throughout the experiment.

CLASSIFICATION: QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality; LL520 Animal Nutrition (Production Responses); LL110 Dairy Animals; QQ030 Meat Produce
SEQUENCE CODE: ZA; ZB; HE; CA; BE; NU; OD; ON; OU
BROADER TERM: Carthamus; Asteraceae; Asterales; dicotyledons; angiosperms; Spermatophyta; plants
CONTROLLED TERM: fats; feeds; safflower; fatty acids; **milk** fat; casein; formaldehyde; linoleic acid; composition; **milk**; feeding; fat; safflower oil
SUPPLEMENTARY TERM: protected; treated; protected fats; **milk** fat after **formaldehyde-treated** casein and safflower oil feeding; **formaldehyde treatment**
CAS REGISTRY NUMBER: 50-00-0; 60-33-3
ORGANISM NAME: Carthamus tinctorius

L121 ANSWER 12 OF 35 CABA COPYRIGHT 2004 CABI on STN DUPLICATE 7
ACCESSION NUMBER: 75:75034 CABA
DOCUMENT NUMBER: 19751439375
TITLE: Effects of feeding **formaldehyde treated**, full fat soybean flours on **milk** fat polyunsaturated fatty acids
AUTHOR: Bitman, J.; Wrenn, T. R.; Wood, D. L.; Mustakas, G. C.; Baker, E. C.; Wolf, W. J.
CORPORATE SOURCE: ARS, USDA, Biochemistry Lab., Beltsville, Md. 20705, USA.
SOURCE: Journal of the American Oil Chemists' Society, (1975) Vol. 52, No. 10, pp. 415-418.
ISSN: 0003-021X
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101
ABSTRACT:

Raw full-fat flour prepared from Hawkeye soya beans; full-fat flour produced by dry heating of the soya beans for 6 to 10 min at 220 deg F followed by extrusion cooking of the heated beans adjusted to 20% moisture for 1.25 min at 275 deg , drying and pinmilling; and a commercial full-fat soya flour (Nutrisoy 220), were each suspended in 4 parts of water, wet milled and homogenized. Formaldehyde solution (37%) was added to each to give a final ratio of formaldehyde solution to protein 1:10 and after 20 min the mixtures were spray-dried. The physical structures of the preparations before and after ***formaldehyde*** **treatment** were examined by scanning electron microscopy. Three Holstein **cows** of 442 to 550 kg and 30 to 45 days in ***lactation*** were given standard hay and concentrate for 5 days, untreated soya for 2 days, hay and concentrate for 5 days, treated soya flour for 2 days and finally hay and concentrate for 5 days. The treated and untreated soya preparations were given at 1500 g daily in 2 portions as part replacement of the concentrate ration on a weight for weight basis. With all of the ***formaldehyde*** **-protected** preparations more than usual amounts of polyunsaturated fats were incorporated into the **milk**, the percentage of linoleic acid being more than doubled compared to the ***milk*** fat of **cows** on untreated soya. Only very small quantities of formaldehyde were found in the **milk**. The efficiency of transfer of C18:2 from feed to **milk** was about 37%.

CLASSIFICATION: LL520 Animal Nutrition (Production Responses); LL110 Dairy Animals; QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality; RR100 Forage and Feed Processing

SEQUENCE CODE: ZA; ZB; HE; CA; BE; NU; ON; OU; OD

BROADER TERM: Fabaceae; Fabales; dicotyledons; angiosperms; Spermatophyta; plants

CONTROLLED TERM: **milk**; soyabeans; feeds; formaldehyde; fatty acids; **milk** fat; composition; **milk** composition; **milk** yield; feeding; fats; linoleic acid

SUPPLEMENTARY TERM: polyunsaturated fatty acid content; **formaldehyde treatment**; treated; unsaturated; poly-; protected fats; protected

CAS REGISTRY NUMBER: 50-00-0; 60-33-3

ORGANISM NAME: Glycine (Fabaceae)

L121 ANSWER 13 OF 35 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 80:22783 CABA

DOCUMENT NUMBER: 19800459738

TITLE: Responses in linoleic acid content of **milk** fat from **cows** receiving different levels of protected sunflower seed supplement. II. Responses to low levels

AUTHOR: Pankhurst, I. M.; Mathews, G. L.; Robinson, I. B.; Fowler, P.

CORPORATE SOURCE: Dairy Res. Inst. (Ellinbank), Warragul, Victoria, Australia.

SOURCE: Australian Journal of Dairy Technology, (1980) Vol. 35, No. 1, pp. 11-13. 7 ref. ISSN: 0004-9433

DOCUMENT TYPE: Journal

LANGUAGE: English

ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

ABSTRACT:
12 Friesian and Friesian X Jersey **cows** were given isoenergetic rations with a basal diet of 50:50 lucerne chaff:oats and a ***formaldehyde*** **-treated** sunflower seed supplement (lipid 38%,

protein 22%, DM basis) at 0, 0.25, 0.5 or 1 kg daily. There was a 21 day preliminary period followed by 7 days adjustment and 16 days measurement. Data were analysed by stepwise regression and equations calculated for the effect of supplement increase on yield parameters. Yield of **milk**, fat and protein were related linearly to supplement inclusion as was linoleic acid yield and % ($R^2 = 90.2-95.4$), fat % was related quadratically to supplement inclusion and to initial fat %; the protein % was not affected by supplements. The equations predicted a 19% increase in **milk** yield for 1 kg supplement. Mean corrected linoleic acid content of **milk** fat was for the 4 diets 6.0, 9.6, 11.7 and 16.6% resp., the amount of linoleic acid in supplement lipid was 74%. [See DSA 39, 528 for part I.]

CLASSIFICATION: LL110 Dairy Animals; LL520 Animal Nutrition
(Production Responses)
SEQUENCE CODE: ZA; ZB; CA; BE; OD; ON
BROADER TERM: female animals; animals; Helianthus; Asteraceae;
Asterales; dicotyledons; angiosperms; Spermatophyta;
plants; Bos; Bovidae; **ruminants**;
Artiodactyla; mammals; vertebrates; Chordata;
ungulates
CONTROLLED TERM: linoleic acid; composition; **milk** fat;
feeding; feeds; sunflowers; seeds; formaldehyde;
cattle feeding; fat; **cows**
SUPPLEMENTARY TERM: protected; treated; protected sunflower seed
supplement; sunflower seed; **formaldehyde**
treatment
CAS REGISTRY NUMBER: 60-33-3; 50-00-0
ORGANISM NAME: Helianthus annuus; **cattle**

L121 ANSWER 14 OF 35 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 80:22782 CABA
DOCUMENT NUMBER: 19800459737
TITLE: The effects of feeding dairy **cows**
formaldehyde protected
decorticated sunflower seed supplement with and
without added soybean meal
AUTHOR: Pankhurst, I. M.; Robinson, I. B.; Mathews, G. L.;
Quinton, D. E.; Roberts, D. J.
CORPORATE SOURCE: Dairy Res. Inst. (Ellinbank), Warragul, Victoria,
Australia.
SOURCE: Australian Journal of Dairy Technology, (1980) Vol.
35, No. 1, pp. 9-11. 5 ref.
ISSN: 0004-9433
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

ABSTRACT:

In a 3 X 3 switch back trial 8 Holstein-Friesians and 1 Jersey cow were given, at 2 kg daily, **formaldehyde-treated** supplements (lipid 38-42%) with whole sunflower seed 90% and casein 10%, or decorticated sunflower seed 90% and casein 10%, or with decorticated sunflower seed 82.5%, soya bean oilmeal 15% and casein 2.5%. Basal diet was 50:50 lucerne chaff:crushed oats and the periods consisted of 7 days adjustment, 8 days measurement. There was no significant difference between treatments with respect to av. daily **milk** yield, 16.2, 16.5 and 16.4 kg, **milk** fat, 4.40, 4.36 and 4.49%, fat yield, 0.70, 0.71, 0.74 kg, protein content 3.43-3.45%, protein yield, or content of linoleic acid in **milk** fat, 23.6, 25.2, 25.3%, resp. In a 2nd trial of the same design, 9 Jersey ***cows*** were grazed and given daily 1 kg of the basal diet and 2.5 kg of the decorticated sunflower seed supplement, sunflower-soya bean supplement or

oats. Av. daily **milk** yield on the 3 diets was 10.4, 10.9 and 11.6 kg with fat 6.13, 5.86 and 5.29%, and linoleic acid in **milk** fat 25.2, 23.8, 4.5%, resp. The protected supplements slightly decreased **milk** yield but increased fat % and slightly increased fat yield. [See also following abstr.]

CLASSIFICATION: LL110 Dairy Animals; LL520 Animal Nutrition
(Production Responses)
SEQUENCE CODE: ZA; ZB; CA; BE; OD; ON
BROADER TERM: female animals; animals; Helianthus; Asteraceae;
Asterales; dicotyledons; angiosperms; Spermatophyta;
plants; Fabaceae; Fabales; Bos; Bovidae;
ruminants; Artiodactyla; mammals;
vertebrates; Chordata; ungulates
CONTROLLED TERM: feeds; sunflowers; seeds; **milk** yield;
composition; fatty acids; **milk** fat yield;
feeding; linoleic acid; **milk** fat;
milk proteins; **milk**; yields;
formaldehyde; soyabeans; meal; **cattle**
feeding; soyabean oilmeal; fat; **cows**
SUPPLEMENTARY TERM: protected; or minus soya bean; treated; sunflower
seed; **formaldehyde treatment**
CAS REGISTRY NUMBER: 60-33-3; 50-00-0
ORGANISM NAME: Helianthus annuus; Glycine (Fabaceae);
cattle

L121 ANSWER 15 OF 35 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 82:15572 CABA
DOCUMENT NUMBER: 19790450007
TITLE: Protection of fats and oils against hydrogenation in
the rumen by encapsulation in **formaldehyde**
-treated protein
Schutz von Fetten und Olen vor der Hydrogenierung in
den Vormagen durch Umhüllung mit formalinbehandeltem
Protein
AUTHOR: Hagemeister, H.; Kaufmann, W.
CORPORATE SOURCE: Bundesanstalt für Milchforschung, Kiel, German
Federal Republic.
SOURCE: Kieler Milchwirtschaftliche Forschungsberichte,
(1979) Vol. 31, No. 1, pp. 53-72. 75 ref.
ISSN: 0023-1347
DOCUMENT TYPE: Journal
LANGUAGE: German
SUMMARY LANGUAGE: English; French
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

ABSTRACT:
Rumen-fistulated **lactating cows** with duodenal shunts
received rations of groundnut or soya bean meal untreated or protected by
repeated spraying with 40% formalin, or alternatively soya bean oil as such or
mixed with finely ground soya beans and encapsulated by formalin treatment.
Data are presented on hydrogenation in the rumen of linoleic acid, total
unsaturated fatty acids and protected and unprotected oils; and on their
digestibilities in the intestine. Linoleic acid contents in **milk** fat
were constant at 1-2% in daily **milk** fat yield of 200-1000g/
cow when unprotected feeds were given, and were approx. 8% at a
milk fat yield of 200g and 3-4% at yields of 500-600 g when sprayed
soya bean meal was given. Data on passage of linoleic acid into **milk**
calculated from differences in contents between duodenum and faeces are
presented and findings are extensively discussed.

CLASSIFICATION: LL600 Animal Physiology and Biochemistry (Excluding Nutrition)
 SEQUENCE CODE: ZA; CA; BE; OD
 BROADER TERM: Arachis; Fabaceae; Fabales; dicotyledons; angiosperms; Spermatophyta; plants
 CONTROLLED TERM: fats; feeds; soyabeans; linoleic acid; composition; **milk** fat; feeding; meal; formaldehyde; groundnuts
 SUPPLEMENTARY TERM: protected; treated
 CAS REGISTRY NUMBER: 60-33-3; 50-00-0
 ORGANISM NAME: Arachis hypogaea; Glycine (Fabaceae); **cattle**

L121 ANSWER 16 OF 35 CABA COPYRIGHT 2004 CABI on STN
 ACCESSION NUMBER: 77:23498 CABA
 DOCUMENT NUMBER: 19770435320
 TITLE: Dairy research report 1976, No. 4
 CORPORATE SOURCE: Australia, Department of Agriculture & Fisheries, South Australia
 SOURCE: Dairy research report 1976, No. 4, (1976) pp. 22. Adelaide
 PUB. COUNTRY: Australia
 DOCUMENT TYPE: Report; Company Publication
 LANGUAGE: English
 ENTRY DATE: Entered STN: 19941101
 Last Updated on STN: 19941101

ABSTRACT:

Brief reports of current research at the Northfield Research Centre include the following: Dairy Husbandry Research: feeding mouldy hay to dairy **cows** ; **milk** production from **cows** fed **formaldehyde** and formic acid **treated** silages; hay or grain supplements for milking
 cows grazing green oats; protected oil-seed supplements for milking
 cows ; varying the hay:concentrate ratio of milking **cow** rations; molasses or cereal grain supplements for milking **cows** fed hay; herd recording - (a) alternate a.m.-p.m. sampling and (b) computer system.
 Milk Chemistry Research: genetic typing of bovine **milk** proteins; effect of genetic variants of **milk** proteins on yield and composition of **cows'** **milk**; effect of **milk** protein genetic variants on curd firmness of **milk**; seasonal changes in total protein of herd **milk**; induction of lactogenesis in bull calves; effects of heat stress on **milk** composition; **milk** composition studies. [Continued in following abstr.]

CLASSIFICATION: AA500 Research; LL110 Dairy Animals; RR000 Forage and Feed Products (Non-human); QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality; LL520 Animal Nutrition (Production Responses)
 SEQUENCE CODE: ZA; ZB; CA; BE; EC; OD; ON
 GEOGRAPHIC TERM: Australia
 BROADER TERM: mammals; vertebrates; Chordata; animals; young animals; Hordeum; Poaceae; Cyperales; monocotyledons; angiosperms; Spermatophyta; plants; Helianthus; Asteraceae; Asterales; dicotyledons; Australasia; Oceania
 CONTROLLED TERM: dairy research; hay; feeds; **milk** yield; feeding; silage; formaldehyde; barley; composition; **milk** composition; fats; sunflowers; fatty acids; **milk** fat; **milk** proteins; linoleic acid; **milk**; oxidation; coagulation; rennet; concentrates; molasses; **milk** recording; genetic variation; curd; tension; **lactation**; initiation; calves;

SUPPLEMENTARY TERM: environment; stress
Northfield Res. Centre; Northfield; Res. Centre;
mouldy; treated; formic acid preserved; preserved;
green oats; protected; protected fats; level;
alternate a.m.-p.m. sampling; computerization; hot
CAS REGISTRY NUMBER: 50-00-0; 60-33-3
ORGANISM NAME: Hordeum vulgare; Helianthus annuus

L121 ANSWER 17 OF 35 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 77:76521 CABA
DOCUMENT NUMBER: 19771453280
TITLE: Studies on feeding encapsulated safflower oil to
milking cows and fattening steers
AUTHOR: Abe, M.; Yamamoto, Y.; Uehara, R.; Ogiwara, K.;
Sato, T.
CORPORATE SOURCE: Lab. Nippon Formula Feed Manufacturing Co.,
Yokohama-shi 230, Japan.
SOURCE: Japanese Journal of Zootechnical Science, (1976)
Vol. 47, No. 11, pp. 639-647. 28 ref.
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101


ABSTRACT:

For 3 Holstein cows with daily milk yield about 15 kg the daily ration was timothy hay 4, beet pulp 8 and concentrate 5 to 6 kg. Of 6 consecutive periods of 5 days the first was for standardization, and subsequently the cows got 150, 300 or 600 g safflower oil encapsulated in formaldehyde-treated casein, with periods without the oil interspersed. Fatty acids in milk and plasma were estimated on the last day of each period. The safflower oil tended to increase linoleic acid in plasma lipids and blood sugar. Without oil there was little linoleic acid in milk, but it increased to 21.6% of fatty acids when 600 g oil was given. Safflower oil also increased yield and fat content of ***milk***. For 3 bullocks of 550 kg given concentrates and rice straw to appetite, the protected safflower oil was mixed with concentrate at 10 g/kg for 37 days before slaughter; 3 similar bullocks got no oil. The oil gave significantly more linoleic acid in plasma, but there was little effect on fatty acid composition of carcass fat. Stearic acid was twice as much in kidney fat and visceral fat as in subcutaneous or intramuscular fat. Linoleic acid was twice as much in intramuscular lipids as in the other fatty tissues. The oil did not affect gain, feed conversion or carcass quality of the bullocks. (From summary.)

CLASSIFICATION: LL520 Animal Nutrition (Production Responses); LL110 Dairy Animals
SEQUENCE CODE: ZA; ZB; CA; BE; ON; OD
BROADER TERM: Carthamus; Asteraceae; Asterales; dicotyledons; angiosperms; Spermatophyta; plants
CONTROLLED TERM: milk yield; fats; feeds; safflower; fatty acids; milk fat; feeding; composition; milk; casein; formaldehyde; linoleic acid
SUPPLEMENTARY TERM: cattle carcass composition; safflower oil supplement; formaldehyde treatment; protected; treated; protected fats
CAS REGISTRY NUMBER: 50-00-0; 60-33-3
ORGANISM NAME: Carthamus tinctorius

L121 ANSWER 18 OF 35 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 76:76769 CABA

DOCUMENT NUMBER: 19761444653
TITLE: Effect of feeding protected safflower oil on yield, composition, flavor, and oxidative stability of **milk**
AUTHOR: Goering, H. K.; Gordon, C. H.; Wrenn, T. R.; Bitman, J.; King, R. L.; ~~Douglas, F. W., Jr.~~
CORPORATE SOURCE: ARS, Nutrition Inst., Ruminant Nutrition Lab., Beltsville, MD 20705, USA.
SOURCE: Journal of Dairy Science, (1976) Vol. 59, No. 3, pp. 416-425. 34 ref.
ISSN: 0022-0302
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101



ABSTRACT:

For 16 weeks 4 pairs of Holstein **cows** were given a normal ration of lucerne and cocksfoot hay and concentrate to meet maintenance and production, or a similar diet in which 800 g safflower oil:casein:formaldehyde replaced an equal weight of concentrate. **Cows** were in their first to fourth *****lactation***** and 60 to 170 days post partum. The protected safflower oil compound contained oil 68.5, crude protein 28.5, water 0.5 and formaldehyde 0.5%. After 2 months all **cows** were given alpha -tocopheryl acetate 5 g/day for 7 days. Vitamin E was also added directly to freshly drawn *****milk***** to control oxidized flavour. Digestible energy intakes were estimated to be 7% above needs for control **cows** and 9% above for test *****cows*****. Yields of **milk**, butterfat, protein and solids-not-fat all tended to be greater in **cows** given protected safflower oil, but differences were not significant. Daily production of C18:2 was increased and of C16:1, C14:1 and shorter-chain fatty acids decreased when the protected safflower oil was given. There was 29% C18 acids in **milk** from normally fed **cows** and 59% in that of test **cows**, with correspondingly less short-chain acids. Recovery in **milk** of dietary linoleic acid was estimated at 7% for controls and 15 to 22% for test *****cows*****. Plasma fatty acids showed similar trends to **milk** fats, and cholesterol was higher in **cows** given the safflower oil. Tailhead fat biopsy of those **cows** also showed more linoleic acid. Oxidized flavour developed in response to Cu and spontaneously in **milk** from test **cows**. Use of alpha -tocopherol increased vitamin E in polyunsaturated **milk** by 200%, compared with 50% in normally fed *****cows*****, but controlled only spontaneous, not Cu-induced off-flavours. Direct addition of alpha -tocopherol to **milk** prevented both.

CLASSIFICATION: LL520 Animal Nutrition (Production Responses); LL110 Dairy Animals; QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality
SEQUENCE CODE: ZA; ZB; HE; CA; BE; NU; ON; OU; OD
BROADER TERM: female animals; animals; Carthamus; Asteraceae; Asterales; dicotyledons; angiosperms; Spermatophyta; plants; Bos; Bovidae; **ruminants**; Artiodactyla; mammals; vertebrates; Chordata; ungulates
CONTROLLED TERM: **cattle** feeding; safflower oil; **milk** yield; **milk** composition; **milk** flavour; fats; feeds; safflower; fatty acids; **milk** fat; oxidation; linoleic acid; composition; tocopherols; **milk**; feeding; formaldehyde; **cows**
SUPPLEMENTARY TERM: **formaldehyde** treatment; protected safflower oil; protected; protected fats; or minus tocopherols; added; treated

CAS REGISTRY NUMBER: 60-33-3; 50-00-0
ORGANISM NAME: Carthamus tinctorius; **cattle**

L121 ANSWER 19 OF 35 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 76:77312 CABA
DOCUMENT NUMBER: 19761449629
TITLE: Responses in linoleic acid content of milkfat from
cows receiving different levels of protected
sunflower seed supplement

AUTHOR: Earle, D. F.; Pankhurst, I. M.; Mathews, G. L.;
Fowler, P.; Robinson, I. B.

CORPORATE SOURCE: School of Agriculture, Latrobe Univ., Bundoora,
Victoria, Australia.

SOURCE: Australian Journal of Dairy Technology, (1976) Vol.
31, No. 2, pp. 48-51.
ISSN: 0004-9433

DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

ABSTRACT:

Part of a basal diet of lucerne chaff and crushed oats (1:1 w/w) for 12 dairy
cows was isocalorically replaced by **formaldehyde-**
treated whole sunflower seed supplement (FT-SS) at 0.75, 1.5, 2.0, 2.5
and 3.5 kg/day. **Cows** given 3.5 kg/day periodically scoured and
refused feed and hence results from these animals were not included in
regression analyses. The relationship between the amount of FT-SS (S kg/day)
and the percentage linoleic acid (LC) of the fatty acids of **milk** fat
increased according to the equation: $LC = -0.05 + 13.1 S - 1.87 S^2 + 1.9 ILC$,
where ILC was the initial percentage of linoleic acid. The daily fat yield
increased linearly with the amount of FT-SS given and **cows** which
produced 0.56 kg of fat/day without supplement should produce 0.83 kg/day with
2.5 kg of FT-SS. **Milk** yield and protein yield were not significantly
related to the amount of FT-SS. In **cows** given FT-SS 2.0 kg/day, mean
linoleic acid content of the total **milk** fatty acids was 19.1% with a
standard deviation of 2.0%. It was apparent that different batches of FT-SS can
result in different responses in linoleic acid content of fatty acids of
milk fat.

CLASSIFICATION: LL520 Animal Nutrition (Production Responses); LL110
Dairy Animals; QQ500 Food Composition and Quality;
QQ010 Milk and Dairy Produce; RR300 Feed Composition
and Quality

SEQUENCE CODE: ZA; ZB; HE; CA; BE; NU; ON; OU; OD

BROADER TERM: female animals; animals; Helianthus; Asteraceae;
Asterales; dicotyledons; angiosperms; Spermatophyta;
plants; Bos; Bovidae; **ruminants**;
Artiodactyla; mammals; vertebrates; Chordata;
ungulates

CONTROLLED TERM: **milk** fat; **cattle** feeding; fats;
feeds; sunflowers; fatty acids; composition;
feeding; formaldehyde; linoleic acid; **cows**

SUPPLEMENTARY TERM: linoleic acid content; **formaldehyde**
treated sunflower seed supplement; sunflower
seed supplement; **formaldehyde**
treatment; linoleic acid in **milk**
fat; **formaldehyde treated**;
protected; treated; sunflower seed; protected fats

CAS REGISTRY NUMBER: 50-00-0; 60-33-3
ORGANISM NAME: Helianthus annuus; **cattle**

L121 ANSWER 20 OF 35 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 75:74330 CABA

DOCUMENT NUMBER: 19751431316

TITLE: Is it possible to change profoundly the fat content and the fatty acid composition of **cows'** **milk** by nutrition ?

AUTHOR: Aerts, J. V.; Brabander, D. L. De; Cottyn, B. G.; Martens, R.; Huyghebaert, A.; Buysse, F. X.

CORPORATE SOURCE: National Inst. Animal Nutrition, Scheldeweg 12, 9231 Gontrode, Belgium.

SOURCE: Zeitschrift fur Tierphysiologie Tierernahrung und Futtermittelkunde, (1975) Vol. 34, No. 6, pp. 310-324.

DOCUMENT TYPE: Journal

LANGUAGE: English

SUMMARY LANGUAGE: German

ENTRY DATE: Entered STN: 19941101

Last Updated on STN: 19941101

ABSTRACT:

Seven trials were with **cows** with daily **milk** yields between 10 and 23 litres. In the first 3 trials, preliminary, experimental and recovery periods were 6, 12 and 6 days and in the others they were 14, 21 and 14 days. During experimental periods **cows** were given 2 kg safflower oil or lard **protected** with casein and **formaldehyde**, 0.8 to 1.6 kg lard **protected** with gelatin and **formaldehyde**, or 2 kg groundnuts milled through a 5-mm screen and **treated** with *****formaldehyde*****. The **protected** feeds replaced concentrate. Preparation of the protected lipids is described. The protected safflower oil increased yield and fat content of **milk** and in **milk** fat it reduced short- and medium-chain fatty acids and increased C18 acids, particularly linoleic. Lard **protected** with casein and *****formaldehyde***** increased yield and fat content of **milk** and C18:0 and C18:1 acids in **milk** fat. The relatively cheaper lard *****protected***** with gelatin and **formaldehyde** also increased *****milk***** yield and fat content. The effect on fatty acids is not reported. *****Formaldehyde*** treatment** of groundnuts milled through 1- or 2-mm screen effectively reduced digestibility of organic matter in vitro during 48 h. The coarser meal used in the feeding trials increased yield of *****milk***** and butterfat, but slightly reduced fat content of **milk**.

CLASSIFICATION: LL110 Dairy Animals; LL520 Animal Nutrition (Production Responses); QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality; RR300 Feed Composition and Quality

SEQUENCE CODE: ZA; ZB; ON; OU; CA; BE; NU; 1N; OD

BROADER TERM: female animals; animals; Arachis; Fabaceae; Fabales; dicotyledons; angiosperms; Spermatophyta; plants; Carthamus; Asteraceae; Asterales; Bos; Bovidae; **ruminants**; Artiodactyla; mammals; vertebrates; Chordata; ungulates

CONTROLLED TERM: **milk**; **COWS**; fat; fatty acids; feeds; lipids; feeding; gelatin; groundnuts; casein; formaldehyde; **milk** fat; composition; fats; linoleic acid; safflower; **milk** fat yield protected; fat and fatty acids in **milk**; protected lipids; treated; protected fats

SUPPLEMENTARY TERM: 9000-70-8; 50-00-0; 60-33-3

CAS REGISTRY NUMBER: 9000-70-8; 50-00-0; 60-33-3

ORGANISM NAME: Arachis hypogaea; Carthamus tinctorius; **cattle**

L121 ANSWER 21 OF 35 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 75:19794 CABA
DOCUMENT NUMBER: 19750416344
TITLE: Autoxidation in **milk** rich in linoleic acid. I. An objective method for measuring autoxidation and evaluating antioxidants
AUTHOR: Sidhu, G. S.; Brown, M. A.; Johnson, A. R.
CORPORATE SOURCE: Food Res. Lab., Div. of Food Res., CSIRO, Sydney, NSW 2113, Australia.
SOURCE: Journal of Dairy Research, (1975) Vol. 42, No. 1, pp. 185-195. 32 ref.
ISSN: 0022-0299
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

ABSTRACT:

Autoxidation was studied in **milk** from **cows** fed on ***formaldehyde*** -**treated** casein/safflower oil supplement. A rapid disappearance of dissolved oxygen (DO), measured with an oxygen electrode, from ***milk*** samples stored at 0 deg C in tubes without headspace, coincided with the development of oxidized flavours detected organoleptically. A correlation coeff. of 0.9 ($P < 0.001$) was obtained between the amount of DO disappearing and the taste panel scorers for oxidized flavours. Butylated hydroxyanisole (BHA), sesamol, nordihydroguaiaretic acid, ethoxyquin, or BHA + propylgallate or tocopherols, when added in **emulsified** form to the ***milk*** at the rate of 10-15 mg/l. **milk**, checked the development of oxidized flavours and the rapid disappearance of DO. Other antioxidants tested were either ineffective or imparted off-flavours to **milk**. Samples of mare's **milk** neither developed oxidized flavours nor showed rapid disappearance of DO over a test period of 8 days, despite containing 20% linoleic acid in the fat. The oxygen electrode provides a convenient and sensitive method for studying autoxidation in **milk**.

CLASSIFICATION: QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality
SEQUENCE CODE: ZA; ZB; OU; CA; BE; EC; OD
BROADER TERM: horses; Equus; Equidae; Perissodactyla; ungulates; mammals; vertebrates; Chordata; animals; female animals
CONTROLLED TERM: oxidation; **milk**; linoleic acid; composition; tocopherols; antioxidants; mares added
SUPPLEMENTARY TERM:
CAS REGISTRY NUMBER: 60-33-3
ORGANISM NAME: horses

L121 ANSWER 22 OF 35 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 73:37580 CABA
DOCUMENT NUMBER: 19730407101
TITLE: Cheddar **cheese** with increased polyunsaturated fatty acids
AUTHOR: Wong, N. P.; Walter, H. E.; Vestal, J. H.; Lacroix, D. E.; Alford, J. A.
CORPORATE SOURCE: USDA, Nutr. Inst., Beltsville, Maryland 20705, USA.
SOURCE: Journal of Dairy Science, (1973) Vol. 56, No. 10, pp. 1271-1275. 9 ref.
ISSN: 0022-0302
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101
ABSTRACT:

Cheddar **cheese** was made from normal **milk** and from *****milk***** of **cows** fed a standard hay/concentrate ration supplemented with 800 g **formaldehyde-treated** safflower oil-casein particles. During manufacture, **cheese** containing more than or equal to 12% linoleic acid differed from control **cheese** in the following respects: storage of the **milk** for more than or equal to 3 days was more deleterious to **cheese** quality; the curd had an oily taste; there was more oiling off in the **cheese** vat; bleaching of the annatto **cheese** colouring occurred; and the **cheese** fat contained more long-chain fatty acids, particularly C18:2 (13.59 vs. 2.77% on a wt. basis), C18:1 (33.02 vs. 28.39%) and C18:0 (16.27 vs. 13.26%). Flavour score was approx. 1 point lower than controls for **cheeses** containing 8-18% linoleic acid and 6 points lower for **cheeses** containing >30%. Processed **cheese** prepared by blending normal **cheese** with that containing various % of polyunsaturated fatty acids to give a linoleic acid content of 10-12% was as acceptable as commercial processed **cheese**.

CLASSIFICATION: QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality; LL110 Dairy Animals; LL520 Animal Nutrition (Production Responses); RR300 Feed Composition and Quality
SEQUENCE CODE: ZA; ZB; ON; OU; CA; BE; OD; 1N
BROADER TERM: female animals; animals; Carthamus; Asteraceae; Asterales; dicotyledons; angiosperms; Spermatophyta; plants; Bos; Bovidae; **ruminants**; Artiodactyla; mammals; vertebrates; Chordata; ungulates
CONTROLLED TERM: **cheeses**; Cheddar **cheese**; fatty acids; cheesemaking; **milk**; quality; **milk** fat; feeds; linoleic acid; composition; fats; safflower; casein; formaldehyde; safflower oil; **COWS**; oils; acceptability
SUPPLEMENTARY TERM: polyunsaturated; Cheddar; unsaturated; poly-; protected fats; protected; treated; **formaldehyde treated** casein and safflower oil; **formaldehyde treated**; polyunsaturated fatty acids in **milk**; **formaldehyde treated** feed for **cows**
CAS REGISTRY NUMBER: 60-33-3; 50-00-0
ORGANISM NAME: Carthamus tinctorius; **cattle**

L121 ANSWER 23 OF 35 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 74:19542 CABA
DOCUMENT NUMBER: 19740409864
TITLE: The effect of feeding **formaldehyde treated** sunflower seed supplement on the yield and composition of milkfat
AUTHOR: Chandler, N. J.; Robinson, I. B.; Ripper, I. C.; Fowler, P.
CORPORATE SOURCE: Ellinbank Dairy Res. Sta., Warragul, Victoria.
SOURCE: Australian Journal of Dairy Technology, (1973) Vol. 28, No. 4, pp. 179. 4 ref.
ISSN: 0004-9433
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

ABSTRACT:
After a 15-day standardization period during which lucerne chaff/crushed oats

(1:1 w/w) was fed ad lib., 7 control **cows** continued on the same diet for 72 days whilst 7 experimental **cows** were fed control diet plus ***formaldehyde*** -**treated** sunflower seed (FT-SS) supplement (2:1 w/w); the FT-SS was substituted on the basis of estimated metabolizable energy. Mean daily intake of FT-SS was 2.7 plus or minus 0.3 kg. **Cows** on experimental and control diets respectively had a mean daily **milk** fat yield of 701 and 460 g ($P < 0.001$) and fat % of 6.29 and 3.82% ($P < 0.001$). The FT-SS diet caused significant decreases in the proportions of capric ($P < 0.05$), lauric ($P < 0.01$), myristic ($P < 0.001$), palmitic ($P < 0.001$) and oleic ($P < 0.01$) acid in **milk** fat and increases in the proportions of stearic ($P < 0.01$) and linoleic ($P < 0.001$) acids; the linoleic acid increased 20-fold, to 25.6%.

CLASSIFICATION: QQ010 Milk and Dairy Produce; QQ500 Food Composition and Quality; LL110 Dairy Animals; LL520 Animal Nutrition (Production Responses); RR300 Feed Composition and Quality
SEQUENCE CODE: ZA; ZB; ON; OU; CA; BE; OD; 1N
BROADER TERM: female animals; animals; Helianthus; Asteraceae; Asterales; dicotyledons; angiosperms; Spermatophyta; plants; Bos; Bovidae; **ruminants**; Artiodactyla; mammals; vertebrates; Chordata; ungulates
CONTROLLED TERM: fatty acids; composition; **milk** fat; feeding; fats; linoleic acid; **milk** yield; **milk** fat yield; **milk**; feeds; sunflowers; formaldehyde; **COWS**; treatment; sunflower oilmeal; meal
SUPPLEMENTARY TERM: protected; treated; sunflower seed; **formaldehyde-treated** sunflower meal; **milk** fat composition; **formaldehyde-treated**
CAS REGISTRY NUMBER: 60-33-3; 50-00-0
ORGANISM NAME: Helianthus annuus; **cattle**

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ACCESSION NUMBER: 1977:207996 BIOSIS
DOCUMENT NUMBER: PREV197764030360; BA64:30360
TITLE: FEEDING POLY UNSATURATED VEGETABLE OILS TO
LACTATING COWS.
AUTHOR(S): GOERING H K; WRENN T R; EDMONDSON L F; WEYANT J R; WOOD D L; BITMAN J
SOURCE: Journal of Dairy Science, (1977) Vol. 60, No. 5, pp. 739-747.
CODEN: JDSCAE. ISSN: 0022-0302.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable

ABSTRACT: Holstein **cows** fed concentrate:hay diets also were fed for 14 days supplements of soybean oil plus casein, soybean oil **protected** from **ruminal** hydrogenation by encapsulation in a casein-formaldehyde matrix, cottonseed oil plus casein or cottonseed oil **protected** with casein-**formaldehyde**. The supplements were fed at rates to give a linoleic acid (18:2) intake of 225 g/day. Yields of **milk** and ***milk*** protein were not affected by treatment. **Milk** 18:2 was not increased by the unprotected soybean oil or cottonseed oil but was increased by protected soybean and cottonseed oil from a control of 2.3 to 5.7% of total **milk** fat. **Milk** 18:0 and 18:1 also increased. Compensatory declines were observed in **milk** 16:0 and 14:0 acids. In fecal fatty acids during the treatment periods, percentage of 18:2 of the total

fat decreased and 18:0 markedly increased. These results indicate hydrogenation of the dietary oils in the alimentary tract or a differential absorption. Fecal 16:0 and 14:0 decreased.

CONCEPT CODE: Biochemistry studies - General 10060
 Biochemistry studies - Proteins, peptides and amino acids 10064
 Biochemistry studies - Lipids 10066
 Metabolism - Lipids 13006
 Nutrition - General studies, nutritional status and methods 13202
 Nutrition - Lipids 13222
 Food technology - Dairy products 13518
 Food technology - Evaluations of physical and chemical properties 13530
 Food technology - Preparation, processing and storage 13532
 Digestive system - Physiology and biochemistry 14004
 Animal production - Feeds and feeding 26504
 Agronomy - Forage crops and fodder 52506

INDEX TERMS: Major Concepts
 Animal Husbandry (Agriculture); Digestive System (Ingestion and Assimilation); Foods; Metabolism; Nutrition

INDEX TERMS: Miscellaneous Descriptors
 HOLSTEIN COTTONSEED SOYBEAN CASEIN FORMALDEHYDE
 LINOLEIC-ACID

ORGANISM: Classifier
 Leguminosae 26260
 Super Taxa
 Dicotyledones; Angiospermae; Spermatophyta; Plantae
 Taxa Notes
 Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants

ORGANISM: Classifier
 Malvaceae 26330
 Super Taxa
 Dicotyledones; Angiospermae; Spermatophyta; Plantae
 Taxa Notes
 Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants

ORGANISM: Classifier
 Bovidae 85715
 Super Taxa
 Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia
 Taxa Notes
 Animals, Artiodactyls, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Vertebrates

REGISTRY NUMBER: 50-00-0 (FORMALDEHYDE)
 60-33-3 (LINOLEIC-ACID)

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ACCESSION NUMBER: 1978:144196 BIOSIS

DOCUMENT NUMBER: PREV197865031196; BA65:31196

TITLE: IN-VIVO MEASUREMENT OF RESISTANCE OF **FORMALDEHYDE TREATED** OILSEED SUPPLEMENTS TO HYDROGENATION IN THE RUMEN.

AUTHOR(S): HOOD R L [Reprint author]

CORPORATE SOURCE: CSIRO DIV FOOD RES, PO BOX 52, NORTH RYDE, NSW 2113, AUST

SOURCE: Journal of Dairy Science, (1977) Vol. 60, No. 11, pp. 1701-1705.

CODEN: JDSCAE. ISSN: 0022-0302.

DOCUMENT TYPE: Article

FILE SEGMENT: BA

LANGUAGE: ENGLISH

ABSTRACT: A technique is described for the in vivo measurement of resistance of a **formaldehyde-protected** oilseed supplement to hydrogenation by microorganisms in the rumen. The calculations are derived from changes in fatty acid composition of the **milk** fat of *****cows***** after dietary supplementation with a protected oilseed. The sunflower seed-casein supplement was about 62% protected although protection varied between **cows**. Efficiency of transfer of linoleic acid from oilseed supplement to **milk** lipid was 14%. This technique has application for improvement of supplement technology, for selection of *****cows*****, and for basal diets to be given with the supplement to achieve maximum transfer of linoleic acid from supplement to **milk** fat.

CONCEPT CODE: Mathematical biology and statistical methods 04500
 Biochemistry studies - General 10060
 Biochemistry studies - Lipids 10066
 Metabolism - General metabolism and metabolic pathways 13002
 Metabolism - Lipids 13006
 Nutrition - General studies, nutritional status and methods 13202
 Food technology - Dairy products 13518
 Food technology - Evaluations of physical and chemical properties 13530
 Food technology - Preparation, processing and storage 13532
 Food technology - Synthetic, supplemental and enrichment foods 13534
 Digestive system - Physiology and biochemistry 14004
 Reproductive system - Physiology and biochemistry 16504
 Animal production - Feeds and feeding 26504
 Microorganisms - General 29500
 Agronomy - Oil crops 52514

INDEX TERMS: Major Concepts
 Animal Husbandry (Agriculture); Digestive System (Ingestion and Assimilation); Foods; Metabolism; Microbiology; Nutrition

INDEX TERMS: Miscellaneous Descriptors
 MICROORGANISM SUNFLOWER SEED CASEIN **MILK**
 FATTY-ACID LINOLEIC-ACID

ORGANISM: Classifier
 Microorganisms 01000
 Super Taxa
 Microorganisms
 Taxa Notes
 Microorganisms

ORGANISM: Classifier
 Angiospermae 25200
 Super Taxa
 Spermatophyta; Plantae
 Taxa Notes
 Angiosperms, Plants, Spermatophytes, Vascular Plants

ORGANISM: Classifier
 Compositae 25840
 Super Taxa
 Dicotyledones; Angiospermae; Spermatophyta; Plantae
 Taxa Notes
 Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants

INDEX TERMS: Agronomy - Oil crops 52514
Major Concepts
Animal Husbandry (Agriculture); Biochemistry and
Molecular Biophysics; Blood and Lymphatics (Transport
and Circulation); Foods; Metabolism; Nutrition;
Reproductive System (Reproduction)

INDEX TERMS: Miscellaneous Descriptors
OATS BARLEY LINOLEIC-ACID CHEESE SKIM
MILK

ORGANISM: Classifier
Gramineae 25305
Super Taxa
Monocotyledones; Angiospermae; Spermatophyta; Plantae
Taxa Notes
Angiosperms, Monocots, Plants, Spermatophytes, Vascular
Plants

ORGANISM: Classifier
Compositae 25840
Super Taxa
Dicotyledones; Angiospermae; Spermatophyta; Plantae
Taxa Notes
Angiosperms, Dicots, Plants, Spermatophytes, Vascular
Plants

ORGANISM: Classifier
Bovidae 85715
Super Taxa
Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Artiodactyls, Chordates, Mammals, Nonhuman
Vertebrates, Nonhuman Mammals, Vertebrates

REGISTRY NUMBER: 50-00-0 (FORMALDEHYDE)
60-33-3 (LINOLEIC-ACID)

L121 ANSWER 27 OF 35 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on
STN

ACCESSION NUMBER: 1977:129485 BIOSIS
DOCUMENT NUMBER: PREV197763024349; BA63:24349
TITLE: EFFECTS OF PROTECTED CYCLO PROPENE FATTY-ACIDS ON THE
COMPOSITION OF RUMINANT MILK FAT.
AUTHOR(S): COOK L J; SCOTT T W; MILLS S C; FOGERTY A C; JOHNSON A R
SOURCE: Lipids, (1976) Vol. 11, No. 9, pp. 705-711.
CODEN: LPDSAP. ISSN: 0024-4201.

DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable

ABSTRACT: Unsaturated fatty acids can be **protected** from
ruminant hydrogenation, and, when fed to **lactating**
ruminants, are incorporated into **milk** triacylglycerols. This
reduces the melting point of **milk** triglycerides and makes softer
butter fat. Harder **butter** fat may be made by feeding small
amounts of protected cyclopropene fatty acids. Sterculia foetida seed oil, a
rich source of cyclopropene fatty acids, was **emulsified** with casein
and spray dried to yield a free flowing dry powder. When this material was
treated with **formaldehyde** and fed to **lactating**
goats (.apprx. 1 g cyclopropene fatty acids/day), there were
substantial increases in the proportions of stearic acid and decreases in the
proportions of oleic acid in **milk** fat. Similar results were obtained
when the **formaldehyde-treated** supplements were fed to
lactating **cows** (.apprx. 3 g cyclopropene fatty acids/day).
The effect was considerably less apparent when the S. foetida seed oil-casein
supplement was not **treated** with **formaldehyde**, suggesting

ORGANISM: Classifier
 Bovidae 85715
 Super Taxa
 Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia
 Taxa Notes
 Animals, Artiodactyls, Chordates, Mammals, Nonhuman
 Vertebrates, Nonhuman Mammals, Vertebrates
 REGISTRY NUMBER: 50-00-0 (FORMALDEHYDE)
 60-33-3 (LINOLEIC-ACID)

L121 ANSWER 26 OF 35 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on
 STN

ACCESSION NUMBER: 1977:159676 BIOSIS
 DOCUMENT NUMBER: PREV197763054540; BA63:54540
 TITLE: PRODUCTION COMPOSITION AND MANUFACTURING PROPERTIES OF
 MILK FROM GRAZING DAIRY COWS FED ON A
 FORMALDEHYDE TREATED SUNFLOWER SEED
 SUPPLEMENT.
 AUTHOR(S): BARTSCH B D; ELLIS N J S; MCLEAN D M; RADCLIFFE J C
 SOURCE: Australian Journal of Agricultural Research, (1976) Vol.
 27, No. 6, pp. 917-928.
 CODEN: AJAEA9. ISSN: 0004-9409.

DOCUMENT TYPE: Article
 FILE SEGMENT: BA
 LANGUAGE: Unavailable

ABSTRACT: **Cows** (8) in each of 4 treatment groups grazed regulated
 areas of green oats and consumed either 0, 1.3, 2.5 or 3.1 kg of a
 formaldehyde -**treated** sunflower seed supplement (FSS) per head
 per day. The digestible energy content of the rations was balanced with
 hammer-milled barley. **Milk** fat percentages and **milk** fat
 yields were higher from **cows** fed on FSS, responses being in
 proportion to the amount of FSS eaten. Protein percentages were significantly
 lower in **milk** from **cows** fed on FSS. **Milk** and
 protein yields did not differ significantly between treatments. The linoleic
 acid (C18:2) content of **milk** fat was 3-5 times as high in
 cows fed on FSS as in those not fed on FSS. The stability to oxidation
 and the rennet curd firmness of the **milk** decreased as the percentage
 of C18:2 in **milk** fat increased. Changes in the heat stability of
 milk were associated with the introduction of FSS feeding. Plasma
 cholesterol levels increased with increasing intakes of FSS. **Milk** of
 high C18:2 content can be produced by dairy **cows** fed on FSS and
 grazed on green oats. The **milk** readily oxidizes and its properties
 for **cheese** and skim **milk** powder manufacture are altered.

CONCEPT CODE: Biochemistry studies - Proteins, peptides and amino acids
 10064
 Biochemistry studies - Sterols and steroids 10067
 Biophysics - Molecular properties and macromolecules
 10506
 Metabolism - Sterols and steroids 13008
 Metabolism - Proteins, peptides and amino acids 13012
 Nutrition - General studies, nutritional status and methods
 13202
 Food technology - Dairy products 13518
 Food technology - Evaluations of physical and chemical
 properties 13530
 Food technology - Preparation, processing and storage
 13532
 Blood - Blood and lymph studies 15002
 Reproductive system - Physiology and biochemistry 16504
 Animal production - Feeds and feeding 26504
 Agronomy - Forage crops and fodder 52506

that cyclopropene fatty acids are hydorgenated in the rumen as are other unsaturated fatty acids. The effect of feeding protected cyclopropene fatty acids on the stearic: oleic ratio in milk fat is probably due to cyclopropene-mediated inhibition of the mammary desaturase enzymes.

CONCEPT CODE: Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Lipids 10066
Nutrition - General studies, nutritional status and methods 13202
Food technology - Dairy products 13518
Food technology - Evaluations of physical and chemical properties 13530
Food technology - Preparation, processing and storage 13532
Digestive system - Physiology and biochemistry 14004
Animal production - Feeds and feeding 26504
Horticulture - Tropical, subtropical fruits and plantation crops 53004

INDEX TERMS: Major Concepts
Animal Husbandry (Agriculture); Digestive System (Ingestion and Assimilation); Foods; Nutrition

INDEX TERMS: Miscellaneous Descriptors
STERCULIA-FOETIDA GOAT STEARIC-ACID OLEIC-ACID
MAMMARY DESATURASE ENZYME INHIBITION

ORGANISM: Classifier
Sterculiaceae 26810
Super Taxa
Dicotyledones; Angiospermae; Spermatophyta; Plantae
Taxa Notes
Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants

ORGANISM: Classifier
Bovidae 85715
Super Taxa
Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Artiodactyls, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Vertebrates

REGISTRY NUMBER: 2781-85-3 (CYCLOPROPENE)
57-11-4 (STEARIC-ACID)
112-80-1 (OLEIC-ACID)
103843-28-3 (DESATURASE)

L121 ANSWER 28 OF 35 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

ACCESSION NUMBER: 1973:111885 BIOSIS
DOCUMENT NUMBER: PREV197355011878; BA55:11878
TITLE: FORMALDEHYDE TREATED CASEIN SAFFLOWER
OIL SUPPLEMENT FOR DAIRY COWS PART 2 EFFECT ON
THE FATTY-ACID COMPOSITION OF PLASMA AND MILK
LIPIDS.

AUTHOR(S): COOK L J; SCOTT T W; PAN Y S
SOURCE: Journal of Dairy Research, (1972) Vol. 39, No. 2, pp. 211-218.
CODEN: JDRSAN. ISSN: 0022-0299.

DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
CONCEPT CODE: Genetics - Animal 03506
Biochemistry studies - General 10060
Biochemistry studies - Lipids 10066

Metabolism - Lipids 13006
Nutrition - General studies, nutritional status and methods
13202
Nutrition - General dietary studies 13214
Food technology - Fats and oils 13514
Food technology - Dairy products 13518
Food technology - Synthetic, supplemental and enrichment
foods 13534
Digestive system - Physiology and biochemistry 14004
Blood - Blood and lymph studies 15002
Reproductive system - Physiology and biochemistry 16504
Animal production - Feeds and feeding 26504
Medical and clinical microbiology - General and methods
36001
Veterinary science - Microbiology 38006
Agronomy - Oil crops 52514

INDEX TERMS: Major Concepts
Animal Husbandry (Agriculture); Blood and Lymphatics
(Transport and Circulation); Digestive System (Ingestion
and Assimilation); Foods; Infection; Metabolism;
Nutrition; Veterinary Medicine (Medical Sciences)

INDEX TERMS: Miscellaneous Descriptors
RUMEN MICROORGANISMS LINOLEIC-ACID OCTA DECENOIC-ACID
PALMITIC-ACID TRI GLYCERIDE MYRISTIC-ACID LIPOGENESIS
HYDROGENATE

ORGANISM: Classifier
Microorganisms 01000
Super Taxa
Microorganisms
Taxa Notes
Microorganisms

ORGANISM: Classifier
Compositae 25840
Super Taxa
Dicotyledones; Angiospermae; Spermatophyta; Plantae
Taxa Notes
Angiosperms, Dicots, Plants, Spermatophytes, Vascular
Plants

ORGANISM: Classifier
Bovidae 85715
Super Taxa
Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Artiodactyls, Chordates, Mammals, Nonhuman
Vertebrates, Nonhuman Mammals, Vertebrates

REGISTRY NUMBER: 50-00-0 (FORMALDEHYDE)
60-33-3 (LINOLEIC-ACID)
26764-26-1Q (OCTA DECENOIC-ACID)
27104-13-8Q (OCTA DECENOIC-ACID)
57-10-3 (PALMITIC-ACID)
544-63-8 (MYRISTIC-ACID)

L121 ANSWER 29 OF 35 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on
STN
ACCESSION NUMBER: 1972:181975 BIOSIS
DOCUMENT NUMBER: PREV197254011969; BA54:11969
TITLE: MILK FAT WITH INCREASED POLY UNSATURATED
FATTY-ACIDS.
AUTHOR(S): PLOWMAN R D; BITMAN J; GORDON C H; DRYDEN L P; GOERING H K;
EDMONDSON L F; YONCOSKIE R A; DOUGLAS F W JR; WRENN T R
SOURCE: Journal of Dairy Science, (1972) Vol. 55, No. 2, pp.

204-207.

CODEN: JDSCAE. ISSN: 0022-0302.

DOCUMENT TYPE:

Article

FILE SEGMENT:

BA

LANGUAGE:

Unavailable

CONCEPT CODE:

Biochemistry studies - General 10060

Biochemistry studies - Proteins, peptides and amino acids
10064

Biochemistry studies - Lipids 10066

Metabolism - Lipids 13006

Metabolism - Proteins, peptides and amino acids 13012

Nutrition - General dietary studies 13214

Nutrition - Lipids 13222

Nutrition - Proteins, peptides and amino acids 13224

Food technology - Dairy products 13518

Food technology - Preparation, processing and storage
13532Food technology - Synthetic, supplemental and enrichment
foods 13534

Digestive system - Physiology and biochemistry 14004

Reproductive system - General and methods 16501

Animal production - Feeds and feeding 26504

Veterinary science - General and methods 38002

INDEX TERMS:

Major Concepts

Animal Husbandry (Agriculture); Digestive System
(Ingestion and Assimilation); Metabolism; Nutrition;
Veterinary Medicine (Medical Sciences)

INDEX TERMS:

Miscellaneous Descriptors

SAFFLOWER-D OIL CASEIN **CATTLE****FORMALDEHYDE TREATMENT** LINOLEIC-ACID

RUMEN HYDROGENATION

ORGANISM:

Classifier

Compositae 25840

Super Taxa

Dicotyledones; Angiospermae; Spermatophyta; Plantae

Taxa Notes

Angiosperms, Dicots, Plants, Spermatophytes, Vascular
Plants

ORGANISM:

Classifier

Bovidae 85715

Super Taxa

Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia

Taxa Notes

Animals, Artiodactyls, Chordates, Mammals, Nonhuman
Vertebrates, Nonhuman Mammals, Vertebrates

REGISTRY NUMBER:

50-00-0 (FORMALDEHYDE)

60-33-3 (LINOLEIC-ACID)

L121 ANSWER 30 OF 35 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED.
on STN

ACCESSION NUMBER:

2004-0021940 PASCAL

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TITLE (IN ENGLISH):

Carcass, sensory, and adipose tissue traits of Brangus
steers fed casein-**formaldehyde**-protected
starch and/or canola lipid

AUTHOR:

GILBERT C. D.; LUNT D. K.; MILLER R. K.; SMITH S. B.

CORPORATE SOURCE:

Department of Animal Science, Texas A&M University,
College Station, 77843, United States

SOURCE:

Journal of animal science, (2003), 81(10), 2457-2468,
refs. 1 p.1/4

ISSN: 0021-8812
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-3247, 354000113041600110
ABSTRACT: We predicted that providing **rumen-protected** starch to the small intestine would increase adiposity of intramuscular adipose tissue, and hence marbling scores. Eighteen 15-mo-old Brangus steers were assigned randomly to one of three dietary treatment groups: 1) cracked corn (Corn); 2) casein-**formaldehyde**-protected lipid (Canola Lipid); or 3) casein-**formaldehyde**-protected starch (Marble Plus). All diets were equally balanced for ME (2.91 Mcal/kg), CP (12.5%), and DM (89%). Ether extract was 3.7, 6.9, and 6.9% for the Corn, Canola Lipid, and Marble Plus diets, respectively, and the Marble Plus also contained 3.7% protected starch. Steers were fed the diets for 126 d before slaughter. Average daily feed intake (as-fed basis), ADG, and feed:gain ratio ($P \geq 0.23$) did not differ among treatments. Carcasses across treatments did not differ ($P = 0.26$) in adjusted fat thickness, longissimus muscle area, hot carcass weight, dressing percentage, marbling scores, or USDA quality grade. Percentage of kidney, pelvic, and heart fat was higher ($P < 0.01$) and USDA yield grade tended ($P = 0.08$) to be higher, for carcasses from Canola Lipid- and Marble Plus-fed steers than for carcasses from Corn-fed steers. Of the descriptive meat sensory attributes, connective tissue amount ($P = 0.06$) and painty flavor ($P = 0.12$) tended to be greater in meat from Marble Plus steers than from Canola Lipid steers. Percentages of 18:2n-6 and 18:3n-3 were higher ($P < 0.01$), and 15:0, 16:0, and 17:0 were lower ($P \leq 0.07$) in tissues from Canola Lipid- and Marble Plus-fed steers than in Corn-fed steers. Mean adipocyte volume was greater ($P = 0.02$) in i.m. adipose tissue and tended ($P = 0.11$) to be greater in s.c. adipose tissue of Canola Lipid steers (848 pL) vs. Corn steers (536 pL). Glucose incorporation into total lipids, glyceride-glycerol, and **fatty acid** fractions was highest ($P < 0.01$) in s.c. adipose tissue from steers fed Marble Plus but was unaffected ($P \geq 0.33$) by diet in i.m. adipose tissue. **Fatty acid** synthetase activity tended ($P = 0.08$) to be higher in s.c. adipose tissue of Marble Plus steers, and NADP-malic dehydrogenase activity was higher ($P = 0.03$) in i.m. adipose tissue of Canola Lipid steers. We conclude that Marble Plus did not improve carcass quality, but also did not reduce beef sensory attributes. Any differences we observed in carcass characteristics, adipose tissue cellularity, or lipogenesis apparently were caused by the protected lipid rather than the protected starch.

CLASSIFICATION CODE: 002A36C03; Life sciences; Biological sciences; Agriculture, Animal production; Terrestrial vertebrates zootechny
002A35B15; Life sciences; Biological sciences; Agriculture, Food industry

002A35B05; Life sciences; Biological sciences;
Agriculture, Food industry
CONTROLLED TERM: Animal feeding; Digestion; Protective treatment;
Carcass; Body composition; Adipose tissue;
Organoleptic properties; Treatment efficiency;
Experimental study; Beef **cattle**; Beef;
Production quality; **Formaldehyde**; Lipids;
Casein; Starch; Canola oil; Meat production
BROADER TERM: Artiodactyla; Ungulata; Mammalia; Vertebrata; Farming
animal; **Ruminant** animal; **Milk**
protein; Polysaccharide; Vegetable oil; Animal
production

L121 ANSWER 31 OF 35 FSTA COPYRIGHT 2004 IFIS on STN
ACCESSION NUMBER: 1972(01):G0003 FSTA
TITLE: Protection of dietary polyunsaturated **fatty**
acids against microbial hydrogenation in
ruminants.
AUTHOR: Scott, T. W.; Cook, L. J.; Mills, S. C.
CORPORATE SOURCE: CSIRO, Div. of Animal Physiol., Prospect, NSW,
Australia
SOURCE: Journal of the American Oil Chemists' Society, (1971)
48 (7) 358-364, 21 ref.
DOCUMENT TYPE: Journal
LANGUAGE: English
ABSTRACT: Polyunsaturated **fatty acids** are
normally hydrogenated by microorganisms in the rumen.
Because of this hydrogenation, **ruminant**
triglycerides contain very low proportions of
polyunsaturated **fatty acids**. A new
process is described whereby polyunsaturated oil
droplets are **protected** from **ruminal**
hydrogenation by encapsulation with
formaldehyde-treated protein. The
formaldehyde-treated protein resists breakdown
in the **rumen** thereby **protecting**
the **fatty acids** against microbial
hydrogenation. When these protected oils are fed to
ruminants the **formaldehyde**-protein
complex is hydrolysed in the acidic conditions of the
abomasum and the **fatty acids** are
absorbed from the small intestine. This results in
substantial changes in the triglycerides of plasma,
milk and depot fats, in which the proportion
of polyunsaturated **fatty acids** is
increased from 2-5% to 20-30%. These effects are
observed in the plasma and **milk** within 24-48
h of feeding while a longer period is necessary to
alter the composition of depot fat. The implications
of these findings are discussed in relation to human
and **ruminant** nutrition.
CLASSIFICATION CODE: G (Catering, Speciality and Multicomponent Foods)
CONTROLLED TERM: ANIMALS; ENCAPSULATION; **FATTY ACIDS**;
FORMALDEHYDE; HYDROGENATION; MICROORGANISMS;
MILK; OILS; PROTEINS; FAT; FATS (ANIMAL);
FEED; MICROBIAL; **MILK (FATS)**; **MILK**
FAT; **POLYUNSATURATED FATTY ACIDS**;
PROTECTION # DIETARY; PROTEIN; **RUMINANTS**;
UNSATURATED # FATTY ACID COMPOSITION;
UNSATURATED # FATTY ACID COMPOSITION # DEPOT;
UNSATURATED # TREATED; FATTY ACIDS ; FEED

; FORMALDEHYDE ; HYDROGENATION ; OILS

L121 ANSWER 32 OF 35 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
 ACCESSION NUMBER: 2001-226518 [23] WPIDS
 DOC. NO. CPI: C2001-067577
 TITLE: Feed supplement for altering milk fat profile
 from female **ruminant** livestock such that
 desired proportions and/or types of **fatty**
acids are produced, which are useful in the
 production of **milk, butter,**
cheese, yogurt, chocolate.
 DERWENT CLASS: D13
 INVENTOR(S): ASHES, J R; GULATI, S K; SCOTT, T W
 PATENT ASSIGNEE(S): (CSIR) COMMONWEALTH SCI & IND RES ORG
 COUNTRY COUNT: 95
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
WO 2001011978	A1	20010222	(200123)*	EN	41	A23C009-14	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ							
NL OA PT SD SE SL SZ TZ UG ZW							
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM							
DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC							
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE							
SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW							
AU 2000062556	A	20010313	(200134)			A23C009-14	
EP 1209981	A1	20020605	(200238)	EN		A23C009-14	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT							
RO SE SI							
NZ 517728	A	20030131	(200319)			A23C009-14	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001011978	A1	WO 2000-AU953	20000811
AU 2000062556	A	AU 2000-62556	20000811
EP 1209981	A1	EP 2000-949020	20000811
		WO 2000-AU953	20000811
NZ 517728	A	NZ 2000-517728	20000811
		WO 2000-AU953	20000811

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000062556	A Based on	WO 2001011978
EP 1209981	A1 Based on	WO 2001011978
NZ 517728	A Based on	WO 2001011978

PRIORITY APPLN. INFO: AU 1999-2218 19990813
 INT. PATENT CLASSIF.:
 MAIN: A23C009-14
 SECONDARY: A23D009-02; A23K001-00; A23K001-18
 BASIC ABSTRACT:

WO 200111978 A UPAB: 20010425
 NOVELTY - An alteration in the amount and/or type of protected lipid feed,
 producing **milk** products with a wide spectrum of physical
 characteristics, such that expensive fractional crystallization and
 enzymatic interesterification procedures are no longer needed

DETAILED DESCRIPTION - The **fatty acid** profile of **milk** from female **ruminant** livestock is altered to comprise the following types and proportions if **fatty acids**: 25-45wt% C18:1 cis; 4-15wt% C18:2; 1-8wt% C18:3; and/or 1-3wt% C20:5 and C22:6. The process comprises feeding protected lipid to the livestock such that 60-90% of it can pass through the rumen undigested leaving it available for **post-ruminal** digestion. The **protected** lipid is produced by the emulsification of lipid with protein, and mixing in 1.5-3 g. of **formaldehyde** per 100 g. crude portion of the emulsified lipid-protein complex. INDEPENDENT CLAIMS are also included for:

(1) a similar process where the **fatty acid** profile comprises 25-35wt% C16:0 cis, 20-30wt% C18:0 and 20-25wt% C18:1, and can also pass through the rumen in a similar amount; and

(2) **milk** fat obtained from a **ruminant** fed with the protected component(s). comprises nutritionally-desirable soft fats including n-3 and n-6 essential **fatty acids**, conjugated linoleic acid, and 20C and 22C polyphenolic **fatty acids**.

USE - The feedstuff prepared is useful for the production of **milk** fat from the **ruminant** animal, this fat is used in the production of **milk**, **butter**, **cheese**, **yogurt**, **chocolate** or **infant formula**.

ADVANTAGE - The process obviates the need for expensive fractional crystallization and enzymatic interesterification procedures are no longer needed

DESCRIPTION OF DRAWING(S) - The drawing shows a graphic representation of the role of foodstuffs. Including protected lipids, in altering the proportions of **fatty acids** in **milk**.

Dwg. 1/2

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: CPI: D03-G

L121 ANSWER 33 OF 35 USPATFULL on STN
ACCESSION NUMBER: 2001:119047 USPATFULL
TITLE: ENHANCING IMMUNE RESPONSE IN ANIMALS
INVENTOR(S): RICHARDSON, KURT E., MAYSVILLE, GA, United States

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001009668	A1	20010726
	US 6379676	B2	20020430
APPLICATION INFO.:	US 1999-265821	A1	19990310 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202		
NUMBER OF CLAIMS:	18		
EXEMPLARY CLAIM:	1		
LINE COUNT:	789		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for improving the immune response of an animal to a vaccine, comprising: feeding an animal a diet of contamination-resistant **feed**, and treating said animal with an anti-viral or anti-bacterial vaccine.

IT 50-00-0, Formaldehyde, biological studies
(feed treated with; enhancing immune response in animals)

L121 ANSWER 34 OF 35 USPATFULL on STN

ACCESSION NUMBER: 80:33182 USPATFULL

TITLE: Animal feeds

INVENTOR(S): Leroy, Francoise A. J., St. Leu la Foret, France
Zelter, Zelmen, Paris, France
Francois, Andre' C., Paris, France
Chassin, Andre', Saint-Junien, France
Rodeaud, Jacques, Chabanais, France

PATENT ASSIGNEE(S): Institut National de la Recherche Agronomique and
Aussedat-Rey, Paris, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4211795		19800708
APPLICATION INFO.:	US 1974-532153		19741224 (5)
DISCLAIMER DATE:	19870421		
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1969-845902, filed on 29 Jul 1969, now Defensive Publication No. And Ser. No. US 1966-524837, filed on 3 Feb 1966, now patented, Pat. No. US 3507662		

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1965-4208	19650203
	FR 1965-4787	19650203
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Bernstein, Hiram H.	
LEGAL REPRESENTATIVE:	Oblon, Fisher, Spivak, McClelland & Maier	
NUMBER OF CLAIMS:	7	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 4 Drawing Page(s)	
LINE COUNT:	1730	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A nitrogenous animal feed complex and especially a proteinaceous animal feed complex, comprising a protein organic tanning substance complex that protects the proteinaceous feed against bacterial deamination in the upper regions of the alimentary tract (typically in the rumen of a ruminant), and dissociates in the presence of the proteolytic enzymes present in the lower regions of the alimentary tract.

IT 50-00-0, biological studies
(protein tanning with, for ruminant feeds)

L121 ANSWER 35 OF 35 USPATFULL on STN

ACCESSION NUMBER: 77:43613 USPATFULL

TITLE: Method for manufacturing ruminant feed supplements comprising a protein-aldehyde complex

INVENTOR(S): Rawlings, Robert M., Boise, ID, United States
Procter, Donald, Boise, ID, United States

PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Research Organization, Australia (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4042718		19770816
APPLICATION INFO.:	US 1975-642998		19751222 (5)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Golian, Joseph M.
LEGAL REPRESENTATIVE: Richards, Harris & Medlock
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
LINE COUNT: 472

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An improved method for manufacturing a feed supplement for ruminants in which lipids are encapsulated in a protective protein-aldehyde complex coating which includes the steps of forming an emulsified product in which particles of lipid material are surrounded by protein, treating the emulsified product with an aldehyde and allowing a gel to form, contacting the gel with an effective amount of an acid constituent to affect syneresis, and thereafter recovering the concentrated gel constituent. The gel can thereafter be dried to form a free-flowing particulate composition.

IT 50-00-0D, protein complexes
(fat encapsulation with, for feed)

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